Center for Musculoskeletal Research (CSR)

Center for Musculoskeletal Research Newsletter *August 2023*

CORT Pilot & Feasibility Award

The Center of Research Translation on Osteoporosis Bone Anabolic Therapies (CORT), based in the Endocrine Unit at MGH and funded by the National Institute of Arthritis and Musculoskeletal Diseases (NIAMS) P50 mechanism is announcing a request for **Pilot and Feasibility Research proposals ($30,000/year direct costs)**. This announcement is directed to faculty proposing highly focused research projects that address mechanisms of action of osteoporosis bone anabolic therapies using preclinical or clinical models. Specifically, pilot and feasibility funding is encouraged to be used to support development of novel technologies that contribute to this goal. Awardees will be expected to present progress to CORT members biannually and provide a written annual report.

LETTER OF INTENT DUE: FRIDAY, SEPT 15th at 5PM EST

Letter of intent should include:

- A 250-word abstract
- NIH style biosketch
- other support page

Please submit in a single PDF file to **dafitzgerald@mgb.org**. In subject line, include your last name and "**P50P+F LOI**".

THOSE INVITED TO APPLY FOR FUNDING WILL BE INFORMED BY FRIDAY, SEPT 29TH

APPLICATIONS WILL BE DUE ON OCT 27TH AT 5PM EST.

Investigators must invest at least 1 calendar month of effort. If salary requests do not reflect this effort, cost-sharing plans must be indicated. Applicants who are not U.S. citizens or permanent U.S. residents must have active visas permitting them to remain in the U.S. for the full period of the proposed research.

Per NIAMS rules, interventional clinical studies are not allowed. Previous P50 P&F awardees will be allowed to re-apply for an additional year of funding.

Join the Musculoskeletal Research Symposium Committee!

Contribute to our amazing bone community! Looking for volunteers for the 2024 CSR Symposium organizing committee. Committee members help determine the focus of the symposium and choice of speakers and it's a great opportunity to get to know other researchers in the field.

Time commitment includes monthly meetings, staffing the check in table, poster judging and a commitment to participate for the duration of event. Time commitment is minimal to moderate: 1-2 hr/month.

Email Julia Charles (jfcharles@bwh.harvard.edu) to volunteer or if you have questions about the role of the committee.

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CSR Friday Research Seminar Series

Friday, September 8, 2023 • 3:30pm – 5:00pm ET

Occurs every first or second Friday of the month. Click here for full schedule.

"Exploring TET2-driven clonal hematopoiesis in inflammatory arthritis"

Susan MacLauchlan, PhD

Instructor of Medicine, Brigham and Women's hospital, Department of Medicine, Division of Rheumatology, Immunology and Inflammation

&

"Bio-inspired Scaffolds for Moderated TGF-beta Delivery During Cartilage Regeneration"

Michael Albro, PHD

Assistant Professor in the Boston University Department of Mechanical Engineering with affiliations in Materials Science & Engineering, Biomedical Engineering, and the Photonics Center

Zoom information sent to all members in calendar invite. Email CSRmail@partners.org for Zoom link.

CSR Journal Club

Wednesday, September 13, 2023 • 4:00pm – 5:00pm ET

"Directed differentiation of human pluripotent stem cells into articular cartilage reveals effects caused by absence of WISP3, the gene responsible for Progressive Pseudorheumatoid Arthropathy of Childhood"

Presented by **Chaochang Li, PhD**

Click here *to view the article on PubMed*

Join the CSR Mentorship Program!

If you are interested in joining the CSR Mentorship Program as a mentor, please click here to take a brief 5-minute survey identifying your interests.
Recommended commitment is 1 hour per quarter (this can vary with your preference).

Recently Published by the CSR Community

Portales-Castillo I, Dean T, Cheloha RW, Creemer BA, Vilardaga JP, Savransky S, Khatri A, Jüppner H, Gardella TJ. Altered Signaling and Desensitization Responses in PTH1R Mutants Associated with Eiken Syndrome. Commun Biol. 2023 Jun 2;6(1):599. doi: 10.1038/s42003-023-04966-0. PMID: 37268817; PMCID: PMC10238420.

Young C, Kobayashi T. Limited roles of Piezo mechanosensing channels in articular cartilage development and osteoarthritis progression. Osteoarthritis Cartilage. 2023 Jun;31(6):775-779. doi: 10.1016/j.joca.2023.01.576. Epub 2023 Feb 17. PMID: 36805475.

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Mitchell DM, Singhal V, Animashaun A, Bose A, Carmine B, Stanford FC, Inge TH, Kelsey MM, Lee H, Bouxsein ML, Yu EW, Bredella MA, Misra M. Skeletal Effects of Sleeve Gastrectomy in Adolescents and Young Adults: A 2-Year Longitudinal Study. J Clin Endocrinol Metab. 2023 Mar 10;108(4):847-857. doi: 10.1210/clinem/dgac634. PMID: 36314507; PMCID: PMC10211497.

Sato T, Andrade CDC, Yoon SH, Zhao Y, Greenlee WJ, Weber PC, Viswanathan U, Kulp J, Brooks DJ, Demay MB, Bouxsein ML, Mitlak B, Lanske B, Wein MN. Structure-based design of selective, orally available salt-inducible kinase inhibitors that stimulate bone formation in mice. Proc Natl Acad Sci U S A. 2022 Dec 13;119(50):e2214396119. doi: 10.1073/pnas.2214396119. Epub 2022 Dec 6. PMID: 36472957.

Karagianni A, Matsuura S, Gerstenfeld LC, Ravid K. Inhibition of Osteoblast Differentiation by JAK2^{V617F} Megakaryocytes Derived From Male Mice With Primary Myelofibrosis. Front Oncol. 2022 Jul 8;12:929498. doi: 10.3389/fonc.2022.929498. PMID: 35880162; PMCID: PMC9307716.

Daley EJ, Yoon SH, Reyes M, Bruce M, Brooks DJ, Bouxsein M, Potts JT, Kronenberg HM, Wein MN, Lanske B, Jüppner H, Gardella TJ. Actions of Parathyroid Hormone Ligand Analogues in Humanized PTH1R Knockin Mice. Endocrinology. 2022 Jul 1;163(7):bqac054. doi: 10.1210/endocr/bqac054. PMID: 35460406; PMCID: PMC9167040.

Phan HTN, Loomis J, Abraham S, He Q, Bastepe M, Smrcka AV. A naturally occurring membrane-anchored Gα_s variant, XLα_s, activates phospholipase Cβ4. J Biol Chem. 2022 Jun 13;298(8):102134. doi: 10.1016/j.jbc.2022.102134. Epub ahead of print. PMID: 35709985; PMCID: PMC9294334.

Young C, Caffrey M, Janton C, Kobayashi T. Reversing the miRNA -5p/-3p stoichiometry reveals physiological roles and targets of miR-140 miRNAs. RNA. 2022 Jun;28(6):854-864. doi: 10.1261/rna.079013.121. Epub 2022 Mar 24. PMID: 35332065; PMCID: PMC9074898.

Shaw AT, Yan J, Kuhstoss SA, Charles JF, Gravallese EM. Dickkopf-1 directs periosteal bone formation in two murine models of inflammatory arthritis. Scand J Rheumatol. 2022 Mar 11:1-5. doi: 10.1080/03009742.2022.2040136. Epub ahead of print. PMID: 35272576.

Mor Grinstein, Stephanie L Tsai, Daniel Montoro, Heather L Dingwall, Ken Zou, Moshe Sade-Feldman, Miho J Tanaka, Terence D Capellini, Jayaraj Rajagopal, Jenna L Galloway. BioRxiv doi: https://doi.org/10.1101/2022.02.02.478533

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