

Stanford

Qi Gao

Postdoctoral Scholar, Orthopedic Surgery

Bio

STANFORD ADVISORS

- Stuart Goodman, Postdoctoral Research Mentor
- Stuart Goodman, Postdoctoral Faculty Sponsor

Publications

PUBLICATIONS

- **Sex differences of NF-#B-targeted therapy for mitigating osteoporosis associated with chronic inflammation of bone.** *Bone & joint research*
Toya, M., Kushioka, J., Shen, H., Utsunomiya, T., Hirata, H., Tsubosaka, M., Gao, Q., Chow, S. K., Zhang, N., Goodman, S. B.
2024; 13 (1): 28-39
- **Preclinical models for studying corticosteroid-induced osteonecrosis of the femoral head.** *Journal of biomedical materials research. Part B, Applied biomaterials*
Tsubosaka, M., Maruyama, M., Lui, E., Kushioka, J., Toya, M., Gao, Q., Shen, H., Li, X., Chow, S. K., Zhang, N., Yang, Y. P., Goodman, S. B.
2024; 112 (1): e35360
- **Preclinical models for studying corticosteroid-induced osteonecrosis of the femoral head** *JOURNAL OF BIOMEDICAL MATERIALS RESEARCH PART B-APPLIED BIOMATERIALS*
Tsubosaka, M., Maruyama, M., Lui, E., Kushioka, J., Toya, M., Gao, Q., Shen, H., Li, X., Chow, S., Zhang, N., Yang, Y., Goodman, S. B.
2024; 112 (1)
- **Effects of Aging on Osteosynthesis at Bone-Implant Interfaces.** *Biomolecules*
Pius, A. K., Toya, M., Gao, Q., Ergul, Y. S., Chow, S. K., Goodman, S. B.
2023; 14 (1)
- **C-C Motif Chemokine Ligand 2 Enhances Macrophage Chemotaxis, Osteogenesis, and Angiogenesis during the Inflammatory Phase of Bone Regeneration.** *Biomolecules*
Shinohara, I., Tsubosaka, M., Toya, M., Lee, M. L., Kushioka, J., Murayama, M., Gao, Q., Li, X., Zhang, N., Chow, S. K., Matsumoto, T., Kuroda, R., Goodman, et al
2023; 13 (11)
- **Glycolytic reprogramming in macrophages and MSCs during inflammation.** *Frontiers in immunology*
Li, X., Shen, H., Zhang, M., Teissier, V., Huang, E. E., Gao, Q., Tsubosaka, M., Toya, M., Kushioka, J., Maduka, C. V., Contag, C. H., Chow, S. K., Zhang, et al
2023; 14: 1199751
- **CCL2 promotes osteogenesis by facilitating macrophage migration during acute inflammation.** *Frontiers in cell and developmental biology*
Toya, M., Zhang, N., Tsubosaka, M., Kushioka, J., Gao, Q., Li, X., Chow, S. K., Goodman, S. B.
2023; 11: 1213641
- **Bone regeneration in inflammation with aging and cell-based immunomodulatory therapy.** *Inflammation and regeneration*
Kushioka, J., Chow, S. K., Toya, M., Tsubosaka, M., Shen, H., Gao, Q., Li, X., Zhang, N., Goodman, S. B.
2023; 43 (1): 29
- **Metabolic profile of mesenchymal stromal cells and macrophages in the presence of polyethylene particles in a 3D model.** *Stem cell research & therapy*
Teissier, V., Gao, Q., Shen, H., Li, J., Li, X., Huang, E. E., Kushioka, J., Toya, M., Tsubosaka, M., Hirata, H., Alizadeh, H. V., Maduka, C. V., Contag, et al

2023; 14 (1): 99

- **Using Microphysiological System for the Development of Treatments for Joint Inflammation and Associated Cartilage Loss-A Pilot Study.** *Biomolecules*
Makarczyk, M. J., Hines, S., Yagi, H., Li, Z. A., Aguglia, A. M., Zbikowski, J., Padget, A. M., Gao, Q., Bunnell, B. A., Goodman, S. B., Lin, H.
2023; 13 (2)
- **Creation of a Knee Joint-on-a-Chip for Modeling Joint Diseases and Testing Drugs.** *Journal of visualized experiments : JoVE*
Makarczyk, M. J., Li, Z. A., Yu, I., Yagi, H., Zhang, X., Yocom, L., Li, E., Fritch, M. R., Gao, Q., Bunnell, B. A., Goodman, S. B., Tuan, R. S., Alexander, et al
2023
- **The efficiency of genetically modified mesenchymal stromal cells combined with a functionally graded scaffold for bone regeneration in corticosteroid-induced osteonecrosis of the femoral head in rabbits.** *Journal of biomedical materials research. Part A*
Tsubosaka, M., Maruyama, M., Lui, E., Moeinzadeh, S., Huang, E. E., Kushioka, J., Hirata, H., Jain, C., Storaci, H. W., Chan, C., Toya, M., Gao, Q., Teissier, et al
2023
- **Experimental models to study osteoarthritis pain and develop therapeutics.** *Osteoarthritis and cartilage open*
Riewruja, K., Makarczyk, M., Alexander, P. G., Gao, Q., Goodman, S. B., Bunnell, B. A., Gold, M. S., Lin, H.
2022; 4 (4): 100306
- **Differential dynamics of bone graft transplantation and mesenchymal stem cell therapy during bone defect healing in a murine critical size defect.** *Journal of orthopaedic translation*
Huang, E. E., Zhang, N., Ganio, E. A., Shen, H., Li, X., Ueno, M., Utsunomiya, T., Maruyama, M., Gao, Q., Su, N., Yao, Z., Yang, F., Gaudilliere, et al
2022; 36: 64-74
- **Therapeutic effects of MSCs, genetically modified MSCs, and NF κ B-inhibitor on chronic inflammatory osteolysis in aged mice.** *Journal of orthopaedic research : official publication of the Orthopaedic Research Society*
Kushioka, J., Toya, M., Shen, H., Hirata, H., Zhang, N., Huang, E., Tsubosaka, M., Gao, Q., Teissier, V., Li, X., Utsunomiya, T., Goodman, S. B.
2022
- **Human Mesenchymal Stem Cell-Derived Miniature Joint System for Disease Modeling and Drug Testing.** *Advanced science (Weinheim, Baden-Wurttemberg, Germany)*
Li, Z., Lin, Z., Liu, S., Yagi, H., Zhang, X., Yocom, L., Romero-Lopez, M., Rhee, C., Makarczyk, M. J., Yu, I., Li, E. N., Fritch, M. R., Gao, et al
2022: e2105909
- **Novel Techniques and Future Perspective for Investigating Critical-Size Bone Defects.** *Bioengineering (Basel, Switzerland)*
Huang, E. E., Zhang, N., Shen, H., Li, X., Maruyama, M., Utsunomiya, T., Gao, Q., Guzman, R. A., Goodman, S. B.
2022; 9 (4)
- **AN INNERVATED SYNOVIUM-CARTILAGE CHIP FOR MODELING JOINT INFLAMMATION AND ASSOCIATED PAIN**
Li, Z., Makarczyk, M. J., Moy, J. K., Yu, I., Liu, F., Gao, Q., Cho, S., Weber, D. J., Bunnell, B. A., Goodman, S. B., Gold, M. S., Lin, H.
MARY ANN LIEBERT, INC. 2022: S505
- **Sex differences in the therapeutic effect of unaltered versus NF κ B sensing IL-4 over-expressing mesenchymal stromal cells in a murine model of chronic inflammatory bone loss.** *Frontiers in bioengineering and biotechnology*
Shen, H., Kushioka, J., Toya, M., Utsunomiya, T., Hirata, H., Huang, E. E., Tsubosaka, M., Gao, Q., Li, X., Teissier, V., Zhang, N., Goodman, S. B.
2022; 10: 962114
- **Macrophages Modulate the Function of MSC- and iPSC-Derived Fibroblasts in the Presence of Polyethylene Particles.** *International journal of molecular sciences*
Gao, Q., Li, Z., Rhee, C., Xiang, S., Maruyama, M., Huang, E. E., Yao, Z., Bunnell, B. A., Tuan, R. S., Lin, H., Gold, M. S., Goodman, S. B.
2021; 22 (23)
- **Effect on Osteogenic Differentiation of Genetically Modified IL4 or PDGF-BB Over-Expressing and IL4-PDGF-BB Co-Over-Expressing Bone Marrow-Derived Mesenchymal Stromal Cells In Vitro.** *Bioengineering (Basel, Switzerland)*
Tsubosaka, M., Maruyama, M., Huang, E. E., Zhang, N., Utsunomiya, T., Gao, Q., Shen, H., Li, X., Kushioka, J., Hirata, H., Yao, Z., Yang, Y. P., Goodman, et al
2021; 8 (11)
- **The effect of genetically modified platelet-derived growth factor-BB over-expressing mesenchymal stromal cells during core decompression for steroid-associated osteonecrosis of the femoral head in rabbits.** *Stem cell research & therapy*
Guzman, R. A., Maruyama, M., Moeinzadeh, S., Lui, E., Zhang, N., Storaci, H. W., Tam, K., Huang, E. E., Utsunomiya, T., Rhee, C., Gao, Q., Yao, Z., Yang, et al
2021; 12 (1): 503

- **The efficacy of lapine preconditioned or genetically modified IL4 over-expressing bone marrow-derived mesenchymal stromal cells in corticosteroid-associated osteonecrosis of the femoral head in rabbits.** *Biomaterials*

Maruyama, M., Moeinzadeh, S., Guzman, R. A., Zhang, N., Storaci, H. W., Utsunomiya, T., Lui, E., Huang, E. E., Rhee, C., Gao, Q., Yao, Z., Takagi, M., Yang, et al
2021; 275: 120972

- **The Effects of Macrophage Phenotype on Osteogenic Differentiation of MSCs in the Presence of Polyethylene Particles** *Biomedicines*

Gao, Q., Rhee, C., Maruyama, M., Li, Z., Shen, H., Zhang, N., Utsunomiya, T., Huang, E., Yao, Z., Bunnell, B. A., Lin, H., Tuan, R. S., Goodman, et al
2021; 9 (5)

- **Current Models for Development of Disease-Modifying Osteoarthritis Drugs.** *Tissue engineering. Part C, Methods*

Makarczyk, M. J., Gao, Q., He, Y., Li, Z., Gold, M. S., Hochberg, M., Bunnell, B., Tuan, R. S., Goodman, S. B., Lin, H.
2021

- **PDGF-BB and IL-4 co-overexpression is a potential strategy to enhance mesenchymal stem cell-based bone regeneration.** *Stem cell research & therapy*

Zhang, N. n., Lo, C. W., Utsunomiya, T. n., Maruyama, M. n., Huang, E. n., Rhee, C. n., Gao, Q. n., Yao, Z. n., Goodman, S. B.
2021; 12 (1): 40