Stanford

Ning Zhang

Postdoctoral Research Fellow, Orthopedic Surgery

Bio

HONORS AND AWARDS

- Best Paper Award for Associate Member of Annual Congress of Hong Kong Orthopaedic Association, Hong Kong Orthopaedic Association (2016)
- Best Paper Award of International Congress of Chinese Orthopaedic Association, Chinese Orthopaedic Association (2012)
- National Scholarship for Postgraduates, Ministry of Education of the People's Republic of China (2012)

PROFESSIONAL EDUCATION

- Doctor of Philosophy, Chinese University of Hong Kong (2017)
- Master of Science, Shanghai Jiaotong University (2014)
- Bachelor of Science, Shandong University (2009)

STANFORD ADVISORS

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

Publications

PUBLICATIONS

- **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

- **Effect of porosity of a functionally-graded scaffold for the treatment of corticosteroid-associated osteonecrosis of the femoral head in rabbits.** *Journal of orthopaedic translation*
  Maruyama, M., Pan, C., Moeinzadeh, S., Storaci, H. W., Guzman, R. A., Lui, E., Ueno, M., Utsunomiya, T., Zhang, N., Rhee, C., Yao, Z., Takagi, M., Goodman, et al
  2021; 28: 90–99

- **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)

- **Suppression of NF-kappaB-induced chronic inflammation mitigates inflammatory osteolysis in the murine continuous polyethylene particle infusion model.** *Journal of biomedical materials research. Part A*
  Utsunomiya, T., Zhang, N., Lin, T., Kohno, Y., Ueno, M., Maruyama, M., Huang, E., Rhee, C., Yao, Z., Goodman, S. B.
  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

- **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. E., Yao, Z., Bunnell, B. A., Lin, H., Tuan, R. S., Goodman, et al
  2021; 9 (5)

- **Different Effects of Intramedullary Injection of Mesenchymal Stem Cells During the Acute vs. Chronic Inflammatory Phase on Bone Healing in the Murine Continuous Polyethylene Particle Infusion Model.** *Frontiers in cell and developmental biology*
  Utsunomiya, T., Zhang, N., Lin, T., Kohno, Y., Ueno, M., Maruyama, M., Rhee, C., Huang, E., Yao, Z., Goodman, S. B.
  2021; 9: 631063

- **Modulation of the Inflammatory Response and Bone Healing.** *Frontiers in endocrinology*
  Maruyama, M. n., Rhee, C. n., Utsunomiya, T. n., Zhang, N. n., Ueno, M. n., Yao, Z. n., Goodman, S. B.
  2020; 11: 386

- **TRAF3 modulates cartilage degradation through its suppression of interleukin 17 signaling.** *The American journal of pathology*
  Hu, G. n., Zhang, N. n., Li, J. n., Wang, J. n., Wu, W. n., Li, J. n., Tong, W. n., Zhao, X. n., Dai, L. n., Zhang, X. n.
  2020

- **IL-4 Overexpressing Mesenchymal Stem Cells within Gelatin-Based Microribbon Hydrogels Enhance Bone Healing in a Murine Long Bone Critical-size Defect Model.** *Journal of biomedical materials research. Part A*
  Ueno, M. n., Lo, C. W., Barati, D. n., Conrad, B. n., Lin, T. n., Kohno, Y. n., Utsunomiya, T. n., Zhang, N. n., Maruyama, M. n., Rhee, C. n., Huang, E. n., Romero-Lopez, M. n., Tong, et al
  2020

- **Muscle-generated BDNF is a sexually dimorphic myokine that controls metabolic flexibility** *SCIENCE SIGNALING*
  Yang, X., Brobst, D., Chan, W., Tse, M., Herlea-Pana, O., Ahuja, P., Bi, X., Zaw, A., Kwong, Z., Jia, W., Zhang, Z., Zhang, N., Chow, et al
  2019; 12 (594)

- **The relationship between sarcopenia and fragility fracturea systematic review** *OSTEOPOROSIS INTERNATIONAL*
  Wong, R. Y., Wong, H., Zhang, N., Chow, S. H., Chau, W. W., Wang, J., Chim, Y. N., Leung, K. S., Cheung, W. H.
  2019; 30 (3): 541–53

- **Impaired fracture healing in sarco-osteoporotic mice can be rescued by vibration treatment through myostatin suppression.** *Journal of orthopaedic research : official publication of the Orthopaedic Research Society*
  Zhang, N. n., Chim, Y. N., Wang, J. n., Wong, R. M., Chow, S. K., Cheung, W. H.
  2019

- **Vibration treatment modulates macrophage polarisation and enhances early inflammatory response in oestrogen-deficient osteoporotic-fracture healing.** *European cells & materials*
  Chow, S. K., Chim, Y. N., Wang, J. n., Zhang, N. n., Wong, R. M., Tang, N. n., Leung, K. S., Cheung, W. H.
  2019; 38: 228–45

- **Functionalized cellulose beads with three dimensional porous structure for rapid adsorption of active constituents from Pyrola incarnata** *CARBOHYDRATE POLYMERS*
  Zhang, D., Zhang, N., Song, P., Hao, J., Wan, Y., Yao, X., Chen, T., Li, L.
  2018; 181: 560–69

- **TNF-alpha inhibits SATB2 expression and osteoblast differentiation through NF-kappa B and MAPK pathways** *ONCOTARGET*
  Zuo, C., Zhao, X., Shi, Y., Wu, W., Zhang, N., Xu, J., Wang, C., Hu, G., Zhang, X.
  2018; 9 (4): 4833–50

- **An animal model of co-existing sarcopenia and osteoporotic fracture in senescence accelerated mouse prone 8 (SAMP8)** *EXPERIMENTAL GERONTOLOGY*
  Zhang, N., Chow, S., Leung, K., Lee, H., Cheung, W.
  2017; 97: 1–8

- **Ultrasound as a stimulus for musculoskeletal disorders** *JOURNAL OF ORTHOPAEDIC TRANSLATION*
  Zhang, N., Chow, S., Leung, K., Cheung, W.

2017; 9: 52–59

- **In Vivo Identification and Induction of Articular Cartilage Stem Cells by Inhibiting NF-kappa B Signaling in Osteoarthritis** *STEM CELLS*
  Tong, W., Geng, Y., Huang, Y., Shi, Y., Xiang, S., Zhang, N., Qin, L., Shi, Q., Chen, Q., Dai, K., Zhang, X.
  2015; 33 (10): 3125–37
- **An updated review of mechanotransduction in skin disorders: transcriptional regulators, ion channels, and microRNAs** *CELLULAR AND MOLECULAR LIFE SCIENCES*
  Wang, J., Zhang, Y., Zhang, N., Wang, C., Herrler, T., Li, Q.
  2015; 72 (11): 2091–2106
- **Identification of biomechanical force as a novel inducer of epithelial-mesenchymal transition features in mechanical stretched skin** *AMERICAN JOURNAL OF TRANSLATIONAL RESEARCH*
  Zhou, J., Wang, J., Zhang, N., Zhang, Y., Li, Q.
  2015; 7 (11): 2187–98
- **A heterocyclic molecule kartogenin induces collagen synthesis of human dermal fibroblasts by activating the smad4/smad5 pathway** *BIOCHEMICAL AND BIOPHYSICAL RESEARCH COMMUNICATIONS*
  Wang, J., Zhou, J., Zhang, N., Zhang, X., Li, Q.
  2014; 450 (1): 568–74
- **Dexamethasone shifts bone marrow stromal cells from osteoblasts to adipocytes by C/EBPalpha promoter methylation** *CELL DEATH & DISEASE*
  Li, J., Zhang, N., Huang, X., Xu, J., Fernandes, J. C., Dai, K., Zhang, X.
  2013; 4: e832