

CURRICULUM VITAE

LEI WEI

2. Name, position, academic Department

Associate Professor
Warren Alpert Medical School of Brown University/Rhode Island Hospital
Department of Orthopaedics
Division of Orthopaedic Research
CORO West, Suite 402,

3. Home address

11 Russell Tennant Drive, Attleboro, MA 02703
Business Telephone: 401-793-8384
Business Fax: 401-444-6140
E-Mail: Lei_Wei@brown.edu

4. EDUCATION

Medical School: Guiyang Medical College, China, 10/1978-08/1983, Medicine, M.D.
Karolinska Institute, Stockholm, Sweden, 09/1994-05/1999, Ph.D.
Ph.D. dissertation topic: Guinea Pig Osteoarthritis-Morphological and Biochemical Studies
The Master of Arts ad Eundem degree 5/26/2013 from Brown University, Providence, RI. USA

5. Professional APPOINTMENTS

09/1988-08/1994: Researcher / Lecturer, Dept. of Orthopedics, Guiyang Medical College, China
09/03-present: Research Scientist, Dept. of Orthopedics, Rhode Island Hospital.
07/03-06/11: Assistant Professor, Dept. of Orthopedics, Brown Medical School/Rhode Island Hospital.
07/01/11-present: Associate Professor, Dept. of Orthopedics, Brown Medical School/Rhode Island Hospital.
07/01/11-06/30/17: Associate Program Director of imaging and molecular biology core / center for biomedical research excellence in skeletal health and repair
07/01/17-present: Director of imaging and molecular biology core / center for biomedical research excellence in skeletal health and repair
07/01/2022-2027: Member of the Extracellular Vesicle Core Steering Committee of COBRE Stem Cells and Aging Phase III

6. COMPLETED PUBLICATIONS

a. Books/monographs;

b. Chapters in books;

Chen, Q., **Lei, W.**, Wang, Z., Sun, X., Luo, J., and Yang, X. Endochondral bone formation and extracellular matrix, Current Topics in Bone Biology, 145-162, Deng, H., and Liu, Y. (Eds) World Scientific Publishing Co. 2005.

Wei, L. Guinea Pig Osteoarthritis-Morphological and Biochemical Studies. Printed in Sweden by Repro Print AB, Stockholm 1999: 2. ISBN 91-628-3361-8.

Chongwei Chen, Shaowei Wang, Xiaochun Wei, Xiaojuan Sun, Pengcui Li and **Lei Wei***. Recent Advances in Molecular Mechanisms of Cartilage Degeneration during Osteoarthritis. Osteoarthritis | www.smgebooks.com. SMGroup. Published Date: December 03, **2015**

Shaowei Wang, Xiaoxhun Wei, and **Lei Wei**. Encyclopedia of Bone Biology (1st edition) Editor-in-Chiefs: Mone Zaidi, Chapters: Indian Hedgehog Signaling in Osteoarthritis. Imprint: Academic Press. Published Date: 30th June, 2020. Book ISBN: 9780128140819 ELSEVIER (online in the Reference Module in Biomedical Science).

c. Refereed journal articles;

1. Edin de Bri, **Wei, L.**, Finn P Reinholt, Silwa MW, Dick Heinegard, and Svensson, O. Ultrastructural immunolocalization of bone sialoprotein in guinea pig osteoarthritis. Osteoarthritis and Cartilage. 1997; 5 (6): 387-393.
2. **Wei, L.**, Svensson, O. and Hjerpe, A. Correlation of Morphological and Biochemical Changes in the Natural History of the Spontaneous Osteoarthritis in Guinea Pigs. Arthritis Rheumatism. 1997; 40 (11): 2075-2083.
3. **Wei, L.**, Hjerpe, A., and Svensson, O. Structural and biochemical changes in guinea pig osteoarthritis after surgically altered load. Acta orthopaedica Scandinavica Supplementum. 1998; 280 (69): 24.
4. **Wei, L.**, Hjerpe, A., and Svensson, O. Proteoglycan turnover during development of spontaneous osteoarthritis in guinea pig. Acta Orthopaedica Scandinavica Supplementum. 1998; 280 (69):23.
5. Edin de Bri, **Wei, Lei**, Olle Svensson, majeed Chowdhury, Susan A Mooak, and Robert A Greenwald. Effect of an inhibitor of matrix metalloproteinases on spontaneous osteoarthritis in guinea pigs. Dental Research 1998;vol12:82-85.
6. **Wei, L.**, Svensson, O., and Hjerpe, A. Metabolic Turnover of Sulfated Glycosaminoglycans and Proteoglycans in Guinea Pigs Knee Articular Cartilage during Development of Primary Osteoarthritis. Osteoarthritis and Cartilage. 1998; 6 (6): 410-416.
7. **Wei, L.**, Lundberg, A., and Svensson, O. Mechanical Load and Primary Guinea Pig Osteoarthritis. Acta Scandinavica Orthopaedica. 1998; 69 (4): 351-357.
8. LP Zou, DH Ma, **L Wei**, van der Meide PH, Mix Eilhard and J Zhu. IFN- β suppresses experimental autoimmune neuritis in Lewis rats by inhibiting the migration of inflammatory cells into peripheral nervous tissue. J Neuroscience Research. 1999; 56: 123-130.

9. LP Zou, DH Ma, M Levi, B Wahren, BG Xiao, L Wei, E Mix, van der Meide PH, J Zhu. Antigen-specific immunosuppression: nasal tolerance of P0 protein peptides for the prevention and treatment of experimental autoimmune neuritis in Lewis rats. *Journal of Neuroimmunology*. 1999; 94: 109-121.
10. Edin de Bri and Wei, Lei. Biochemical and histological effects of tetracyclines on spontaneous osteoarthritis in guinea pigs. *Image Anal Stereol* 2000;19:125-131.
11. Xuechu Zhen, Lei Wei, Qiuqian Wu, Yue Zhang, and Qian Chen. Mitogen-Activated Protein Kinase p38 Mediates Regulation of Chondrocyte Differentiation by Parathyroid Hormone. *Journal of Biological Chemistry* 2001; 276(7): 4879-4885.
12. Wei, L., Hjerpe, A., and Svensson, O. The effect of load on articular cartilage matrix and the development of guinea-pig osteoarthritis. *Osteoarthritis and Cartilage* 2001; 9(5): 447-53.
13. Wei, L., Hultenby K, Hjerpe, A. Brismar H and Svensson, O. Distribution of chondroitin 4-sulfate epitopes (2/B/6) in spontaneous guinea pig osteoarthrosis. *Acta Scandinavica Orthopadica*. 2003; 74(1): 16-21.
14. Brismar BH, Wei L, Hjerpe A, Svensson O. The effect of body mass and physical activity on the development of guinea pig osteoarthrosis. *Acta Orthop Scand*. 2003; 74(4): 442-8.
15. Sun X, Wei L, Liden J, Hui G, Dahlman-Wright K, Hjerpe A, Dobra K. Molecular characterization of tumour heterogeneity and malignant mesothelioma cell differentiation by gene profiling. *J Pathol*. 2005 Jul 8;207(1):91-101.
16. Wei L, Sun X, Terek R, Chen Q. Down-Regulation of A Chemokine Receptor CXCR4 by Small Interfering RNA Inhibits MMP13 Release and Enhances TIMP 1 Expression in Articular Chondrocytes. *Osteoarthritis and Cartilage* 2005; 13: Supplement A S29.
17. Wei L, Sun X, Terek R, Chen Q. CD95 induced osteoarthritic chondrocytes apoptosis and necrosis: dependency on p38 mitogen-activated protein kinase. *Arthritis Research & Therapy* 2006; 8(2);R37. PMID: 16469115 [PubMed - indexed for MEDLINE]
18. Lei Wei, Xiaojuan Sun, Zhengke Wang, Changqi Sun, Katsuaki Kanbe, Richard Terek and Qian Chen. Chondrocyte Death Induced by Pathological Concentration of Chemokine Stromal Cell-Derived Factor-1. *The Journal of Rheumatology*. 2006; 33(9): 1818-26. PMID: 16960943
19. van der Weyden, L., Wei, L, Luo, J., Yang, X., Birk, D. E., Adams, D. J., Bradley, A., and Chen, Q. Functional knockout of the matrilin-3 gene causes premature chondrocyte maturation to hypertrophy and increases bone mineral density and osteoarthritis, *American Journal of Pathology*, 169(2): 515-527, 2006.
20. Katsuaki Kanbe; Lei Wei; Changqi Sun; Qian Chen. Pericellular Matrilins Regulate Activation of Chondrocytes by Cyclic Load-Induced Matrix Deformation. *The Journal of Bone and Mineral Research*. 2007;22:318-328.
21. Surena Namdari, M.D., Lei Wei, M.D., Ph.D., Douglas Moore, M.S., and Qian Chen, Ph.D. Genetic Inhibition of P38 MAP Kinase Activity in Cartilage Reduces Limb Length and Worsens Osteoarthritis in Adult Mice. *Arthritis & Rheumatism* 58(11): 3520-3529, 2008.
22. Wei, L., Sun X., Kanbe K., Terek R. Critical Roles for Chemokine SDF-1 Signaling in Development of Growth Plate Chondrocyte Hypertrophy. *Bone Supplement 1*, 2008; 43:532.

23. Yan-lin Li, Rui Han, Xue-ling Zhao, Xiao-guang Xiu, Hong-tao Guo, Yong-nian Wang, Lei Wei. A New Osteonecrosis Animal Model of The Femoral Head Induced by Microwave Heating and Repaired With Tissue Engineered Bone. *International Orthopaedics*. 33(2):573-80, 2009 Apr.
24. Ming Pei, Fan He, Ashley Rawson and Lei Wei. Melatonin enhances chondrogenic differentiation of porcine articular chondrocytes. *J Pineal Res*. 46(2):181-7, 2009.
25. Xiaojuan Sun, Lei Wei, and Richard M.Terek. HDAC4 Represses Vascular Endothelial Growth Factor Expression in Chondrosarcoma by Modulating RUNX2 Activity. *JBC* 284(33):21881-90, 2009 Aug 14.
26. Pei M., Chen D., Li J., Wei L. Histone deacetylase 4 promotes TGF-beta1-induced synovium-derived stem cell chondrogenesis but inhibits chondrogenically differentiated stem cell hypertrophy. *Differentiation* 2009 Dec;78(5):260-8. PMID: 19716643
27. Lei Wei, Braden C. Fleming, Xiaojuan Sun, Erin Teeple, Wesley Wu, Gregory D. Jay, Khaled A. Elsaid, Jason T. Machan, Qian Chen. Comparison of Differential Biomarkers of Osteoarthritis with and without Post-traumatic Injury in the Hartley Guinea Pig Model. *Journal of Orthopedic Research*. 2010 Jul;28(7):900-6. PMID: 20108346.
28. Lei Wei, Katsuaki Kanbe, Mark Lee, Richard Terek, Qian Chen. Stimulation of Chondrocyte Hypertrophy by Chemokine Stromal Cell-Derived Factor 1 in the Chondro-osseous Junction during endochondral bone formation. *Developmental biology* 2010 May 1;341(1):236-45 (PMCID: PMC2862458)
29. Xiaojuan Sun, Lei Wei, Qian Chen and Richard M Terek. CXCR4/SDF1 mediate hypoxia induced chondrosarcoma cell invasion through ERK signaling and increased MMP1 expression. *Molecular Cancer* 2010 Jan 26;9:17. PMID: 20102637.
30. Wangping Duan, Lei Wei, Yongzhuang Hao, Juntao Zhang, Chunjiang Li, Hao Li, Qi Li, Quanyou Zhang, Weiyi Chen, Xiaochun Wei. Alteration of Viscoelastic Properties is associated with the change of the Cytoskeleton Components in Age-related chondrocytes from Rabbit Knee Articular Cartilage. *Molecular & Cellular Biomechanics (MCB)* 2011; 8(4):253-274. PMID: 22338706.
31. M. Pei, F. He and L. Wei. Three-Dimensional Cell Expansion Substrate for Cartilage tissue Engineering and Regeneration: A Comparison in Decellularized matrix Deposited by Synovium-Derived Stem Cells and Chondrocytes *J Tissue Science & Engineering* 2011, 2:2
32. HE Yi-Xin, Zhang Ge, Pan Xiao-Hua, Liu Zhong, Zheng Li-zhen, Chan Chun-Wai, Lee Kwong-Man, Cao Yong-Ping, Li Gang, Wei Lei, Hung Leung-Kim, Leung Kwok-Sui, Qin Ling. Impaired bone healing pattern in mice with ovariectomy-induced osteoporosis: A drill-hole defect model. *Bone* 2011; 48; 1388–1400. PMID: 21421090.
33. Angie Guan, Xu Yang, Lei Wei, Qian Chen. MiR-365: A Mechano-sensitive MicroRNA Stimulates Chondrocyte Differentiation through Targeting Histone Deacetylase 4. *The FASEB Journal* 2011; vol. 25 no. 12 4457-4466, PMID: 21856783
34. HE Yi-Xin, Liu Zhong, Pan Xiao-Hua, Tang Tao, Guo Bao-Sheng, Zheng Li-zhen, Lee Kwong-Man, Cao Yong-Ping, Wei Lei, Hung Leung-Kim, Qin Ling, Zhang Ge. Deletion of estrogen receptor beta accelerates early stage of bone healing in a mouse osteotomy model. *Osteoporos International*. 2012 Jan; 23(1):377-89. PMID: 22037970
35. Xiaochun Wei, Kun Yin, Pengcui Li, Huan Wang, Juan Ding, Wangping Duan, Lei Wei. Type II collagen fragment HELIX-II is a marker for early cartilage lesions but does not

- predict progression of cartilage destruction in human knee joint synovial fluid. *Rheumatology International*. 2012; **33**:1895-9 PMID: 22238024
36. Yingjie Guan¹, Qian Chen¹, Xu Yang¹, Paul Haines¹, Mei Pei², Richard Terek¹, Xiaochun Wei³, Tingcun Zhao⁴, Lei Wei^{1,3} Subcellular Relocation of Histone Deacetylase 4 Regulates Growth Plate Chondrocyte Differentiation through Ca²⁺/Calmodulin-Dependent Kinase IV. *AJP-Cell Physiology*. 2012 Jul;303(1):C33-40 PMID: 22442139
 37. Yuze Wang, Lei Wei, Xiaochun Wei. Nutrition and Degeneration of Articular Cartilage. *Knee Surgery, Sports Traumatology, Arthroscopy*. 21: 1751-62, **2013**. PMID: 22476522
 38. Fangyuan Wei, Jingming Zhou, Xiaochun Wei, Braden C. Fleming, Richard Terek, Qian Chen, Ming Pei, and Lei Wei. Activation of Indian Hedgehog Promotes Chondrocyte Hypertrophy and Upregulation of MMP-13 in Human Osteoarthritic Cartilage. *Osteoarthritis and Cartilage*. **2012** Jul;20(7):755-63 PMID: 22469853
 39. Fangyuan Wei, Douglas C. Moore, Yanlin Li, Ge Zhang, Xiaochun Wei, Joseph K. Lee, Lei Wei. Attenuation of Osteoarthritis via Blockade of the SDF-1/CXCR4 Signaling Pathway. *Arthritis Research & Therapy* **2012**, 14 (4) :R177. PMID: 22849584.
 40. Ling Zhang, Bing Chen, Yu Zhao, Patricia Dubielecka-Szczerba, Lei Wei, Gang L, Qin, Eugene Y, Chin, Yigang Wang, and Ting Zhao. Inhibition of histone deacetylases-induced myocardial repair is mediated by c-kit in infarcted hearts. *J. Biol. Chem.* 287: 39338-48, **2012**. PMID: 23024362
 41. Sun X, Charbonneau C, Wei L, Yang W, Chen Q, Terek RM. CXCR4 Targeted Therapy Inhibits VEGF Expression and Chondrosarcoma Angiogenesis. *Molecular Cancer Therapeutics* 12:1163-70, **2013**. PMID: 23686836
 42. Yong Ping Li, Xiao Chun Wei, Jingming Zhou, Lei Wei. The age-related changes in cartilage and osteoarthritis. *BioMed Research International*. **2013**:916530. PMID:23971049
 43. Pei, M; Li, Jingting; Zhang, Ying; Liu, Guihua; Wei, Lei; Zhang, Yuanyuan. Expansion on matrix deposited by nonchondrogenic urine stem cells strengthens the chondrogenic capacity of repeated-passage bone marrow stromal cells. *Cell and Tissue Research*. 356: 391-403, **2014**. PMID: 24705582
 44. Jingming Zhou, Qian Chen, Beate Lanske, BradenC Fleming, Richard Terek, Xiaochun Wei, Ge Zhang, Shaowei Wang, Kai Li, Lei Wei. Disrupting the Indian hedgehog signaling pathway in vivo attenuates surgically induced osteoarthritis progression in Col2a1-CreERT2; Ihhfl/fl mice. *Arthritis Research & Therapy* **2014** Jan 15;16(1):R11. PMID: 24428864. PMCID:PMC3978435
 45. Shaowei Wang, Xiaochun Wei, Jingming Zhou, Jing Zhang, Kai Li, Qian Chen, Richard Terek, Braden C. Fleming, Mary B.Goldring, Michael G. Ehrlich, Ge Zhang, Lei Wei Identification of Alpha 2 Macroglobulin (A2M) as a master inhibitor of cartilage degrading factors that attenuates post-traumatic osteoarthritis progression. *Arthritis & Rheumatology*. **2014**: 66(7); 1943-53. PMID: 24578232. PMCID:PMC4187342. DOI:10.1002/art.38576.
 46. Congming Zhang, Xiaochun Wei, Chongwei Chen, Kun Cao, Yongping Li, Qiang Jiao, Juan Ding, Jingming Zhou, Braden C Fleming, Qian Chen, Xianwen Shang, Lei Wei. Indian hedgehog in synovial fluid is a novel marker for early cartilage lesions in human

- knee joint. International Journal of Molecular Sciences (Int. J. Mol. Sci.) **2014**, 15, 7250-7265; PMID: 24786088
47. Jingming Zhou, Xiaochun Wei, and **Lei Wei**. Indian Hedgehog, a Critical Modulator in Osteoarthritis, could be a Potential Therapeutic Target for Attenuating Cartilage Degeneration Disease. *Connective Tissue Research* **2014**;55(4):257-61. PMID: 24844414.
 48. Pengcui Li, Xiaochun Wei, Yingjie Guan, Qian Chen, Tingcun Zhao, Changqi Sun, and **Lei Wei**. MicroRNA-1 Regulates Chondrocyte Phenotype by Repressing Histone Deacetylase 4 during Growth Plate Development. *The FASEB Journal* 28:3930-41, **2014**. PMID: 24858276
 49. Ling Zhao, Megan DeNicola, Xin Qin, Jianfeng Du, Julio Ma, Tina Zhao, Shougang Zhuang, Paul Liu, **Lei Wei**, Gang Qin, Yaoliang Tang, and Ting Zhao. Specific Inhibition of HDAC4 in Cardiac Progenitor Cells Enhances Myocardial Repairs. *AJP-Cell Physiology*. **2014**; 15:307(4):C358-72. PMID: 24944198
 50. DUAN Wang-ping, **Wei Lei**, CAO Xiao-ming, GUO Heng, WANG Lei, HAO Yong-zhuang, WEI Xiao-chun. Effect of the disruption of three cytoskeleton components on chondrocyte metabolism in rabbit knee cartilage. *Chinese medical journal* **2014**; 127(21):3764-70. PMID: 25382333
 51. Xiaojuan Sun, **Lei Wei**, Richard M. Terek. MicroRNA Regulates Vascular Endothelial Growth Factor Expression in Chondrosarcoma Cells. *Clinical Orthopaedics and Related Research*. 473:907-13, **2015**. PMID: 25106798
 52. DUAN Wang-ping, **Wei Lei**, CAO Xiao-ming, GUO Heng, WANG Lei, HAO Yong-zhuang, WEI Xiao-chun. Anti-Catabolic Effect of Caffeic Acid Phenethyl Ester, an Active Component of Honeybee Propolis on Bone Loss in Ovariectomized Mice: a Micro-CT Study and Histological analysis. *Chin Med J (Engl)*. **2014** Nov;127(22):3932-6. PMID: 25421193
 53. Cao kun, **Wei lei**, zhang zhi qiang, guo li, zhang cong min, li yong ping, sun chang qi, sun xiao juan, wang shao wei, li peng cui and wei xiao chun. Decreased HDAC4 is associated with human OA cartilage degeneration by releasing HDAC4 inhibition of Runx2 and increasing OA-related genes: A Novel Mechanism of Human OA Cartilage Degeneration. *Arthritis Research & Therapy*. 16:487, **2014**. PMID: 25424126
 54. Wang X, Li Y, Han R, He C, Wang G, Wang J, Zheng J, Pei M, **Wei L**. Demineralized Bone Matrix Combined Bone Marrow Mesenchymal Stem Cells, Bone Morphogenetic Protein-2 and Transforming Growth Factor- β 3 Gene Promoted Pig Cartilage Defect Repair. *PLoS One*. 9:e116061, **2014**. PMID: 25545777
 55. Nathan Thomas, Pencui Li, Braden Fleming, Qian Chen, Xiaochun Wei, Xiaohua Pan, Gang Li, **Lei Wei**. Attenuation of Cartilage Pathogenesis in Post-traumatic Osteoarthritis (PTOA) in Mice by blocking the Stromal Derived Factor 1 Receptor (CXCR4) with the specific inhibitor, AMD3100. *J Orthop Res*. 33:1071-8, **2015**. PMID: 25732515
 56. Shaowei Wang, Kun Yang, Shuai Chen, Jiying Wang, Guoqing Du, Shunwu Fan, **Lei Wei**. Indian hedgehog contributes to human cartilage endplate degeneration. *Eur Spine J*. 24:1720-8, **2015**. PMID: 25958162
 57. Sun X, Charbonneau C, **Wei L**, Chen Q, Terek RM. miR-181a targets RGS16 to promote chondrosarcoma growth, angiogenesis, and metastasis. *Mol Cancer Res*. 13:1347-57, **2015**. PMID: 26013170
 58. Guoqing Du, Yi Songa, **Lei Wei**, Linghui Lia, Xuezhong Wanga, Qinguang Xua, Hongsheng Zhana, Yuelong Caoa, Yuxin Zhenga, Daofang Ding. Osthole Inhibits

- Proliferation and Induces Catabolism in Rat Chondrocytes and Cartilage Tissue. *Cellular Physiology and Biochemistry* **2015**;36:2480-2493. DOI: 10.1159/000430208
59. Shaowei Wang, Jingming Zhou, Xiaochun Wei, Pengcui Li, Kai Li, Ongming Wang, Fangyuan Wei, Jianzhong Zhang and **Lei Wei**. Identification of α 1-Antitrypsin as a Potential Candidate for Internal Control for Human Synovial Fluid in Western Blot. *Rheumatology (Sunnyvale)*. **2015** ; Suppl 6: 006–. doi:10.4172/2161-1149.S6-006.
 60. Yong Ping Li, Xiao Chun Wei, Peng Cui Li, Chun Wei Chen, Xiao Hu Wang, Qiang Jiao, Dong Ming Wang, Fang yuan Wei, Jian zhong Zhang and **Lei Wei**. The Role of miRNAs in Cartilage Homeostasis. *Current Genomics*, **2015**; **16**(6): 393-404. doi: 10.2174/1389202916666150817203144
 61. Jianfeng Du, Ling Zhang, Zhengke Wang, Naohiro Yano, Yu Tina Zhao, **Lei Wei**, Patrycja Dubielecka-Szczerba, Paul liu, Shougang Zhuang, Gang Qin, and Ting Zhao. Exendin-4 induces myocardial protection through MKK3 and Akt-1 in infarcted hearts. *AJP-Cell Physiology* 15:C270-83, **2016**. PMID: 26739490.
 62. Jingming Zhou; Pengcui Li; Qian Chen; Xiaochun Wei; Ting Zhao; Zhengke Wang; **Lei Wei**. Mitogen-activated Protein Kinase p38 Induces HDAC4 Degradation in Hypertrophic Chondrocytes. *Biochimica et Biophysica Acta - Molecular Cell Research (BBA)* –1853:370-76, **2015**. PMID: 25447540.
 63. Qiang Jiao, **Lei Wei**, Chongwei Chen , Pengcui Li, Xiaohu Wang, Yongping Li, Li Guo, Congming Zhang, and Xiaochun Wei. Cartilage oligomeric matrix protein and hyaluronic acid are sensitive serum biomarkers for early cartilage lesions in the knee joint. *Biomarkers*. **2016** Mar;21(2):146-51. doi: 10.3109/1354750X.2015.1118547.
 64. Du G, Zhan H, Ding D, Wang S, Wei X, Wei F, Zhang J, Bilgen B, Reginato AM, Fleming BC, Deng J, **Wei L**: Abnormal Mechanical Loading Induces Cartilage Degeneration by Accelerating Meniscus Hypertrophy and Mineralization after ACL Injury In Vivo. *Am J Sports Med* 44:652-63, **2016**. PMID: 26792705
 65. Li P, Deng J, Wei X, Jayasuriya CT, Zhou J, **Chen Q**, Zhang J, **Wei L**, Wei F: Blocking Hypoxia-Induced CXCR4 by AMD3100 Inhibits Production of OA Associated Catabolic Mediators IL-1 β and MMP-13. *Mol Med Reports*. **2016** Aug;14(2):1475-82. doi: 10.3892/mmr.2016.5419. Epub 2016 Jun 21.
 66. Zhang Z, Wei X, Gao J, Zhao Y, Zhao Y, Guo L, Chen C, Duan Z, Li P, **Wei L**: Intra-Articular Injection of Crosslinked Hyaluronic Acid-Dexamethasone Hydrogel Attenuates Osteoarthritis: an Experimental Study in a Rat Model of Osteoarthritis. *Int J Mol Sci Apr* 15;17(4), **2016**. PMID: 27092487
 67. Chen C, Wei X, Wang S, Jiao Q, Zhang Y, Du G, Wang X, Wei F, Zhang J, **Wei L**: Compression regulates gene expression of chondrocytes through HDAC4 nuclear relocation via PP2A-depended HDAC4 dephosphorylation. *Biochim Biophys Acta* 1863(7 Pt A):1633-1642, **2016**. PMID: 27106144
 68. Chen C, Wei X, Lv Z, Sun X, Wang S, Zhang Y, Jiao Q, Wang X, Li Y, **Wei L**: Cyclic Equibiaxial Tensile Strain Alters Gene Expression of Chondrocytes via Histone Deacetylase 4 Shuttling. *Plos One* 11(5):e0154951, **2016**. PMID: 27149270
 69. Xiao-jian Wang, Yun-Xing Su, Lu Li, Zhi-Hua Zhang, Xiao-Chun Wei, **Lei Wei**. Percutaneous poking reduction and fixation versus open reduction and fixation in the treatment of displaced calcaneal fractures for Chinese patients: A systematic review and meta-analysis. *Chin J Traumatology* **2016**; Dec 1;19(6):362-367. PMID:28088943

70. Xiaohu Wang, **Lei Wei**, Pengcui Li, Zhi Lv, Zhaohui Yang, Min Zhang, Bin Zhao, Lizhi Li, Dennis Wei, Xiaochun Wei. Proximal Fibular Osteotomy, a New Surgery for Pain Relief and Improvement of Joint Function in patients with Knee Osteoarthritis. *Journal of International Medical Research*. **2017**, 45(1) 282-289, DOI: 10.1177/0300060516676630. PMID: 28222626
71. Yuze Wang, PhD, Xiaojuan Sun, PhD, Jia Lv, PhD, Lingyuan Zeng, MS, Xiaochun Wei, PhD, * **Lei Wei**, PhD. * SDF-1 accelerates Cartilage Defect Repairing by Recruiting BMSCs and Promoting Chondrogenic Differentiation. *Tissue Engineering, Part A*. **2017** May 6. [Epub ahead of print] PMID:28478702 DOI: [10.1089/ten.TEA.2017.0046](https://doi.org/10.1089/ten.TEA.2017.0046)
72. Xiao-Jian Wang, Lu Li, Zhi-Hua Zhang, Yun-Xing Su, Xiu-Sheng Guo, Xiao-Chun Wei, **Lei Wei**. Iliioinguinal approach versus Stoppa approach for open reduction and internal fixation in the treatment of displaced acetabular fractures: A systematic review and meta-analysis. *Chin J Traumatol*. 2017 Aug; 20(4):229-234. doi: 10.1016/j.cjtee.2017.01.005. Epub **2017** Jun 19. PMID: 28709737
73. Xiao-jian Wang, Chang Feng, Xiaochun Wei, **Lei Wei**. Ilizarov technique combined with limited surgical methods for correcting post-traumatic talipes equinovarus in children. *ANZ Journal of Surgery* **2017** Aug 16. Doi: 10.1111/ans.14123. [Epub ahead of print] PMID: 28815843
74. Yang Zhang, Xiaochun Wei, Shawn Browning, Gaetano Scuderi, Lewis S. Hanna, **Lei Wei**. Targeted designed variants of alpha-2-macroglobulin (A2M) attenuate cartilage degeneration in Rat ACLT OA model. *Arthritis Res Ther*. **2017** Jul 25;19(1):175. doi: 10.1186/s13075-017-1363-4. PMID: 93.94.28743292
75. F.-Y. WEI, J. K. LEE, **L. Wei**, F. QU, J.-Z. ZHANG. Correlation of Insulin-like Growth Factor 1 and Osteoarthritic Cartilage Degradation: a Spontaneous Osteoarthritis in Guinea-Pig. *European Review for Medical and Pharmacological Sciences*. **2017** Oct; 21(20):4493-4500. PMID:95.96.29131268
76. Dawei Liang; Jian Sun; Fangyuan Wei; Jianzhong Zhang; Pengcui Li; Yingke Xu; Xianwen Shang; Jin Deng; Ting Zhao; **Lei Wei**. Establishment of Rat Ankle Post-Traumatic Osteoarthritis Model Induced by Malleolus Fracture. *BMC Musculoskeletal Disorders*. **2017** Nov 17;18(1):464. doi: 10.1186/s12891-017-1821-9. PMID:29149841
77. Nathan Thomas, M.D.; Wesley J Wu, MD; Braden Fleming, PhD; Fangyuan Wei, MD; Qian Chen, PhD; **Lei Wei**, MD PhD. Synovial inflammation plays a greater role in post-traumatic osteoarthritis compared to idiopathic osteoarthritis in the Hartley Guinea Pig knee. *BMC Musculoskeletal Disorders* (**2017**) 18:556. DOI 10.1186/s12891-017-1913-6
78. Xiao-jian Wang, Xiaochun Wei, **Lei Wei**. Ilizarov Technique Combined with Limited Adjunctive Surgical Methods for Correction of Relapsed Talipes Equinovarus in Children. *Journal of International Medical Research*. **2018** Feb; 46(2):802-810. PMID:29231776. DOI:10.1177/0300060517724710.
79. Wang S, Wei X, Sun X, Chen C, Zhou J, Zhang G, Wu H, Guo B; **Lei Wei**. A Novel Therapeutic Strategy for Cartilage Diseases based on Lipid Nanoparticle-RNAi Delivery System. *International Journal of Nanomedicine*. Volume (**2018**):13 Pages 617-631. PMID:29440889. PMCID:PMC5798567. DOI:10.2147/IJN.S142797
80. Li Lua , Wei Xiaochuna , Geng Xiangb , Duan Zhiqinga , Wang Xiaohua , Li Pengcuia , Wang Chunfangc , **Wei Lei**. Impairment of chondrocyte proliferation after exposure of young murine cartilage to an aged systemic environment in a heterochronic parabiosis

- model. Swiss Med Wkly. **2018** Apr 25;148:w14607. doi: 10.4414/smw.2018.14607. eCollection 2018 Apr 25. PMID:29694646
81. Li S, Xiang C, Wei X, Li H, Li K, Sun X, Wang S, Zhang M, Deng J, Wang X, Li P, Li R, Zhang Y, **Wei L**. Knockdown Indian Hedgehog (Ihh) does not delay Fibular Fracture Healing in genetic deleted Ihh mice and pharmaceutical inhibited Ihh Mice. Sci Rep. **2018** Jul 9;8(1):10351. doi: 10.1038/s41598-018-28657-7. PMID: 29985470
 82. Sun J, Wei X, Li S, Sun C, Wang C, Li P, Wei DL, **Wei L**. The effects of Ihh deletion on Mesenchyme cells: inducing intermediate cartilage scaffold ossification to cause growth plate and phalange joint absence, short limb, and dwarfish phenotypes. Stem Cells Dev. **2018** Jul 21. PMID: 30032718. doi: 10.1089/scd.2018.0071. [Epub ahead of print]
 83. Peng-fei Han **Lei Wei**, Zhi-liang Zhang, Tao-yu Chen, Rui-peng Zhao, Jian-gong Lu, Peng-cui Li, Zhi Lv, Xiao-chun Wei. Contribution of IL-1 β , -6 and TNF- α to the form of post-traumatic osteoarthritis induced by “idealized” anterior cruciate ligament reconstruction in a porcine model. International Immunopharmacology **2018**; 65:212-220 doi.org/10.1016/j.intimp.2018.10.007. PMID:30317108
 84. Shaomin Cao, **Lei Wei**, Xiaochun Wei. miR-195 contributes to human osteoarthritis via targeting PTHrP. Journal of Bone and Mineral Metabolism. **2018** Nov 21. doi: 10.1007/s00774-018-0973-5. [Epub ahead of print] PMID 30465089
 85. Li S, Xiang C, Wei X, Li H, Li K, Sun X, Wang S, Zhang M, Deng J, Wang X, Li P, Li R, Zhang Y, **Wei L**. Early supplemental α 2-macroglobulin attenuates cartilage and bone damage by inhibiting inflammation in collagen II-induced arthritis model. International Journal of Rheumatic Diseases. First published: 04 January **2019** doi.org/10.1111/1756-185X.13457. PMID 30609267
 86. Peng-fei Han, Cheng-long Chen, Zhi-liang Zhang¹, Yi-chen Han², **Lei Wei**, Peng-cui Li, Xiao-chun Wei. Robotics-assisted versus conventional manual approaches for total hip arthroplasty: A systematic review and meta-analysis of comparative studies. The International Journal of Medical Robotics and Computer Assisted Surgery. **2019** Feb 12:e1990. PMID-30746868. DOI - 10.1002/rcs.1990
 87. Li Guo, Xiaochun Wei, Zhiwei Zhang, Xiaojian Wang, Chunli Wang, Pengcui Li, Chunfang Wang, and **Lei Wei**. Ipriflavone attenuates the degeneration of cartilage by blocking the Indian hedgehog pathway. Arthritis Research & Therapy (**2019**) 21:109. <https://doi.org/10.1186/s13075-019-1895-x>. PMID 31046827
 88. Gu XD, **Wei L**, Li PC, Che XD, Zhao RP, Han PF, Lu JG, Wei XC. Adenovirus mediated transduction with Histone Deacetylase 4 ameliorates disease progression in an osteoarthritis rat model. Int Immunopharmacol. 2019 Jul 13;75:105752. doi: 10.1016/j.intimp.2019.105752. PMID: 31310910
 89. Wang Y, Xiang C, Sun X, Wu S, Lv J, Li P, Wei X, **Wei L**. DAla2GIP antagonizes H₂O₂- induced chondrocyte apoptosis and inflammatory factor secretion. Bone. **2019** Jul 5;127:656-663. doi: 10.1016/j.bone.2019.05.026. PMID 31283994
 90. Cao Kun, Wang Hao, Fang Yue yang, Wang Yuan, **Wei Lei**, Chen Xi, Jiang Zheng, Wei Xiao chun, Hu Yong. Histone Deacetylase 4 Promotes Osteosarcoma Cell Proliferation and Invasion by Regulating Expression of Proliferating Cell Nuclear Antigen. Frontiers in Oncology, section Molecular and Cellular Oncology (published: 06 September 2019). doi: 10.3389/fonc.2019.00870. PMID: 31552187. PMCID: PMC6743440
 91. Guoqing Du, Zhanhong Sheng, **Lei Wei**. Histone deacetylase 4 deletion results in abnormal chondrocyte hypertrophy and premature ossification from Col 2 α 1-

expressing cells. *Molecular Medicine Reports*. 2020 Nov; 22(5):4031-4040. Doi: 10.3892/mmr.2020.11465

92. Naohiro Yano, Ling Zhang, Dennis Wei, Patrycja Dubielecka-Szczerba, **Lei Wei**, Shougang Zhuang, Ping Zhu, Gangjian Qin, Paul Liu, Y Chin, and Ting Zhao. Irisin counteracts high glucose and fatty acid induced cytotoxicity by preserving AMPK-insulin receptor signaling axis in C2C12 myoblast" for which you are listed as co-author, has been sent to the corresponding author. *American Journal of Physiology-Endocrinology and Metabolism*. **2020** May 1; 318(5):E791-E805. doi: 0.1152/ajpendo.00219.2019. Epub 2020 Mar 17.
93. Zhi Chen, Zhiwei Zhang, Li Guo, Xiaochun Wei, Yang Zhang, Xiaojian Wang, **Lei Wei**. The Role of Histone Deacetylase 4 during Chondrocyte Hypertrophy and Endochondral Bone Development. *Bone & Joint Research (BJR)*-**2020**;9(2). doi: 10.1302/2046-3758.92.
94. Lu Li, Xiaochun Wei, Pengcui Li, **Lei Wei**. Positive effects of the young systemic environment and high GDF-11 levels on chondrocyte proliferation and cartilage matrix synthesis in old mice. *Arthritis & Rheumatology*. **2020**. DOI:10.1002/art.41230. PMID: 32067417.
95. Jian Sun, Xiao-chun Wei, Lu Li, Xiao-ming Cao, Kai Li, Li Guo, Jian-gong Lu, Zhi-qing Duan, Chuan Xiang, **Lei Wei**. Autografts Versus Synthetics for Cruciate Ligament Reconstruction : A systematic review and meta-analysis. *Orthopaedic Surgery*. **2020** doi.org/10.1111/os.12662
96. Linan Gao, Shengchun Li, Xiaochun Wei, Guoqing Du, Dennis Wei, **Lei Wei**. Conditional deletion of HDAC4 from collagen type 2 α 1-expressing cells increases angiogenesis in vivo. *Molecular Medicine*. **2020**. DOI: 10.1186/s10020-020-00154-6. PMID: 32354322
97. Mengbo Zhu, Bin Zhao, **Lei Wei**, and Shaowei Wang. Alpha-2- Macroglobulin, a Native and Powerful Proteinase Inhibitor, Prevents Cartilage Degeneration Disease by Inhibiting Majority of Catabolic Enzymes and Cytokines. *Current Molecular Biology Reports*. Published: 15 January **2021**. DOI: 10.1007/s40610-020-00142-z
98. Changqi Sun, Can Cao, Ting Zhao, Hailing Guo, Braden C. Fleming, Brett Owens, Jillian Beveridge, Scott McAllister, Lei Wei A2M Inhibits Inflammatory Mediators of Chondrocytes by Blocking IL-1 β /NF- κ B Pathway. *JOR* 2022, DOI: 10.1002/jor.25348.
- 99.

d. Non-Refereed journal articles;

1. **Wei L.** Mu W, Zhen ZE. Treatment of Palellar Fracture with Silk Thread for Sewing. *Guizhou Medical Journal*. 1988; 12 (4): 203-4.
2. **Wei L.** and Chen XD. The use of epidural needle in bone biopsy *Journal of Guiyang Medical college* 1989; 14(2): 151.
3. **Wei L.** Chen XD. Synovial Osteochondromatosis. *Guizhou Medical Journal*. 1989; 13 (3): 169. (Chinese).
4. **Wei L.** Mu W, Zhen ZE. Application of Niti Shape-Memory Alloy Compression Staple for Palellar fracture. *Chinese Journal of Traumatology*. 1989; 5 (3): 162-4. (Chinese).

5. Wei L, Chen XD, Sang XW. Tubercle in musculus gastrocnemius(case report) Guizhou Medical Journal. 1990; 14(4): 208.
 6. Wei L, Zhen ZE, Lu XK and Muong HC. Effects of Hyperbaric Oxygenation Therapy in the acute Phase of Spinal Cord Injury. Guizhou medical Journal. 1992, 16 (6): 178-190. (Chinese).
 7. Wei L, Shong XW and Ling PZ. Intervertebral Infection after Operation. Guizhou Medical Journal. 1992; 16 (6): 345-347. (Chinese).
 8. Wei L, Lu ZX, Zhen ZE and Li DZ. Synovial Sheath of Tendon in Bone. Chinese Journal of Orthopaedics. 1992; 12 (3): 197. (Chinese).
 9. Wei L and Chen XD. Treatment of idiopathic Scoliosis with Electrical Muscle Stimulation. Guizhou Medical Journal. 1992; 16 (3): 186-188. (Chinese).
 10. Wei L and Pang EG. Fracture of Ulna and Radius on Forearm. Guizhou Medical Journal. 1992; 16 (2): 108. (Chinese).
 11. Wei L, and Pang EG. Hand Injury. An Analysis of 8544 cases. Guizhou Medical Journal. 1993; 17 (1):54.
 12. Wei L, Chen XD and Xang SW. The relationship between T3, T4 and Acute spinal cord injury. Journal of Spine and Spinal Cord. 1994, 4 (7): 66-68. (Chinese).
 13. Yu Yanni and Wei Lei. Stereological study on the joint synovial cells in the experimental rats with fluorosis. J China Regional Disease. 1995: 14(5); 263-265.
 14. Yu Yanni and Wei Lei. Effect of vitamin C on the contents of serum and bone fluoride in the experimental fluorosis rats. J China Regional Disease. 1995: 14(5); 268-270.
 15. Yu Yanni and Wei Lei. Effect of vitamin C on the joint synovial cells in the experimental fluorosis rats with stereological method. China comprehensive medicine. 1996: 3: 41-43.
 16. Wei, L., Svensson, O, and Hjerpe, A. Articular cartilage proteoglycans during development of primary osteoarthritis in the guinea pig. Acta Orthop Scand (suppl 270) 1996; 67:63.
 17. Yu Yanni and Wei Lei. Effect of vitamin C on the joint synovial cells in the experimental fluorosis rats with stereological method. China comprehensive medicine. 1996: 3: 41-43.
- e. Book reviews;
- f. Abstracts;
1. Lei Wei, Kenny Chang; Changqi Sun; Braden Fleming; Brett D. Owens; Andrew Gage; Jillian Beveridge; Scott Mcallister; Meggin Costa; Megan Pinette, elias_schwartz. Alpha-2-macroglobulin, a new promising biologic inhibitor attenuate cartilage degeneration via reducing inflammatory mediators. ICORS 2022 Edinburgh September 7-9, 2022
 2. Lei Wei, Kenny Chang; Changqi Sun; Braden Fleming; Brett D. Owens; Andrew Gage; Jillian Beveridge; Scott Mcallister; Meggin Costa; Megan Pinette, elias_schwartz. A Novel Mechanically Stable Swine PTOA Model of Inflammation. ICRS 2022 Berlin April 12-15, 2022
 3. Lei Wei, Kenny Chang; Changqi Sun; Braden Fleming; Brett D. Owens; Andrew Gage; Jillian Beveridge; Scott Mcallister; Meggin Costa; Megan Pinette, elias_schwartz. A Novel Mechanically Stable Swine PTOA Model of Inflammation. ICRS 2022 Berlin April 12-15, 2022

4. Kenny Chang; Changqi Sun; Braden Fleming; Brett D. Owens; Andrew Gage; Jillian Beveridge; Scott Mcallister; Meggin Costa; Megan Pinette; Lei Wei. A Novel Mechanically Stable PTOA Model Of Inflammation: Swine Pilot Study Of Drilling Adjacent ACL Attachment. ORS 2022 Annual Meeting, Feb 4-8 in Tampa, FL.
5. Changqi Sun; Kenny Chang; Braden C. Fleming; Brett D. Owens; Andrew Gage; Jillian E. Beveridge; Scott Mcallister; Meggin Costa; Megan Pinette; Ying Xiao; Lei Wei. Cartilage Damage Is Associated With Synovium Inflammation: A Novel Porcine Model Of Post-traumatic Osteoarthritis. ORS 2022 Annual Meeting, Feb 4-8 in Tampa, FL.
6. Changqi Sun, Can Cao, Braden C. Fleming, Brett D. Owens, Jillian E. Beveridge, Scott Mcallister, Lei Wei. A2M Inhibits Chondrocyte Catabolism by Blocking IL-1 β /NF- κ B pathway. 2021 ORS meeting. POSTER presentation at the ORS 2021 Annual Meeting All Access. Virtual meeting, February 12-16, 2021.
7. Wang XW, Guo H., Li SC., Wei XC., Li PC., Wei L. ALPHA 2 MACROGLOBULIN, A NOVEL MASTER INHIBITOR ATTENUATES POST-TRAUMATIC OSTEOARTHRITIS BY BLOCKING IL-1-NF-KB pathway. the 2020 World Congress on Osteoarthritis, being held April 30 – May 3, 2020 at the Messe Wien Exhibition & Congress center in Vienna, Austria.
8. Yang Zhang, Jeffery Liu, Can Cao, Lei Wei. The change of subchondral bone between guinea pig idiopathic osteoarthritis and guinea pig post traumatic osteoarthritis. Phoenix, Arizona, February 8-11, 2020.
9. Shaowei Wang; Yaqiong Chang; Mengbo Zhu; Ruijia Yang; Yanjing Guo; Yang Zhang; Lei Wei. Upward Running Is More Harmful Than Level Surface Or Downslope Running In Promong Osteoarthritis Progression During Strenuous Running Of Rats. Phoenix, Arizona, February 8-11, 2020.
10. LI GUO; XIAOJIAN WANG; YANG ZHANG; XIAOCHUN WEI; PENG CUI LI; LEI WEI. Mutation Of D289e/ S246/467/632a Of Hdac4 Promotes Chondrocyte Proliferation, Matrix Synthesis, And Inhibits Chondrocytes Hypertrophy Via Anchoring Hdac4 In Nuclei. Phoenix, Arizona, February 8-11, 2020.
11. X Wei, P Han, L Wei, P Li, J Lu, L Li. Upregulation of IL-1 β , -6 and THF- α is responsible for the form of post-traumatic OA in a porcine model. Podium presentation. ICRS Vancouver, Canada, Oct. 5-8, 2019
12. J Sun, X Wei, C Xiang, L Li, D Liang, X Cao, L Wei. Deleted Ihh in Mesenchyme promotes chondrocyte hypertrophy and pathological matrix calcification. Podium presentation. ICRS Vancouver, Canada, Oct. 5-8, 2019
13. X Cao, L Wei, X Wei. Micro-RNA-195 contributes development of OA via targeting Smad3. Podium presentation. ICRS Vancouver, Canada, Oct. 5-8, 2019
14. Jian Sun; Xiaochun Wei; Charley Sun; Chuan Xiang; Xiaoming Cao; Li Guo; Lu Li; Zhengquan Dong; Dennis L. Wei; Lei Wei. Podium presentation. Deleted Ihh in Mesenchyme Results in Intermediate Cartilage Scaffold Pathological Calcification, Which Causes Growth Plate and Phalange Joint Absence, Short Limb and Dwarfish Phenotype. ORS 2019 Annual Meeting, Feb 2-5 in Austin, TX.
15. Shaowei Wang; Mengbo Zhu; Yaqiong Chang; Guoqing Du; Pengcui Li; Bin Zhao; Lei Wei. Podium presentation. Hyaluronic Acid versus Alpha-2-Macroglobulin Intra-Articular Injections for Amelioration of Knee Osteoarthritis: A Rat Model. ORS 2019 Annual Meeting, Feb 2-5 in Austin, TX.

16. Min Zhang; Xiaochun Wei; Yongzhuo Wang; Jian Sun; Lei Wei. Early Intermediate Cartilage Scaffold Ossification Contributes to Absence of Growth Plate and Dwarfish Phenotype in Col2a1-CreERT2;Ihh-fl/fl mice. ORS 2019 Annual Meeting, Feb 2-5 in Austin, TX
17. Xiaoming Cao; Lei Wei; Xiaochun Wei. MicroRNA-195 Contributes To Human Osteoarthritis Via Targeting PTHrP. ORS 2019 Annual Meeting, Feb 2-5 in Austin, TX
18. Lu Li; Xiaochun Wei; Dongming Wang; Zhi Lv; Pengcui Li; Kaihang Wang; Jian Sun; Xiaohu Wang; Jiangong Lu; Lei Wei. A Positive Effect on Chondrocyte Proliferation after Exposure of Old Murine Cartilage in A High Level of GDF-11. ORS 2019 Annual Meeting, Feb 2-5 in Austin, TX
19. Guoqing Du; Chuan Xiang; Ying Shi; Pengcui Li; Xiaochun Wei; Xiaowen Sang; Min Zhang; Hongsheng Zhan; Lei Wei. Abnormal Chondrocyte Hypertrophy And Premature Ossification Due To Hdac4 Deletion From Collagen Type 2 α 1-expressing Cells. ORS 2019 Annual Meeting, Feb 2-5 in Austin, TX
20. Guoxuan Peng; Jin Deng; Lebin Gan; Lebin Gan; Guofen Chen; Lei Wei. Repair Growth Plate Injury By Preventing Bone Bridge Formation Via Over Expression Ihh. ORS 2019 Annual Meeting, Feb 2-5 in Austin, TX.
21. L. Li, X. Wei, L. Wei. Growth Differentiation Factor 11 In Serum And Cartilage Decline With Age ICRS 2018 to be held in Macau (SAR) China from April 09 – 12, 2018.
22. Shengchun Li, Xiaochun Wei¹, Chuan Xiang¹, Min Zhang¹, Jin Deng², Xianwen Shang², Yanxiang Zhang⁵, Lei Wei. Early supplemental α 2-Macroglobulin attenuates cartilage and bone damage by inhibiting inflammation in collagen II induced arthritis model. ORS 2018 Annual Meeting, March 10-13 in New Orleans, LA.
23. Shengchun Li, Xiaochun Wei¹, Hongbin Li², Kai Li, Shaowei Wang, Min Zhang¹, Jin Deng³, Xiaodu Wang⁴, Lei Wei. Knockdown Indian Hedgehog (Ihh) does not delay Fibular Fracture Healing in genetic deleted Ihh mice and pharmaceutical inhibited Ihh mice. ORS 2018 Annual Meeting, March 10-13 in New Orleans, LA.
24. Dawei Liang, Xiaochun Wei, Pengcui Li, Jianzhong Zhang, Yingke Xu, Jin Deng, Xianwen Shang, Lei Wei. A new Rat Ankle PTOA model. 2017 ISAKOS Meeting, June 4-8 in Shanghai China.
25. Dawei Liang, Fangyuan Wei, Xiaochun Wei, Pengcui Li, Jianzhong Zhang, Yingke Xu, Jin Deng, Xianwen Shang, Lei Wei. Establishment of Rat Ankle Osteoarthritis Model Induced by Malleolus Fracture. ORS 2017 Annual Meeting, March 19-22 in San Diego, California.
26. Yang Zhang, Xiaochun Wei, Shawn Browning, Lewis S. Hanna, Gaetano Scuderi, Lei Wei. Targeted Designed Variants Of Alpha-2-macroglobulin, New Promising Biologic Inhibitors Attenuate Cartilage Degeneration By Reducing Cartilage Catabolic Enzymes In An Aclt Rat Oa Model. ORS 2017 Annual Meeting, March 19-22 in San Diego, California.
27. Wang Yuze, Wei Xiaochun, Wei Dennis, Wei Lei. SDF-1 accelerates Cartilage Defect Repairing by Recruiting BMSCs and Promoting Chondrogenic Differentiation. ORS 2017 Annual Meeting, March 19-22 in San Diego, California.
28. Lei Wei, Gaetano Scuderi. A2M and Targeted Variants Attenuate Cartilage Degeneration in OA Model ". The 2017 American Academy of Orthopaedic Surgeons Annual Meeting, March 14-18 in San Diego, California.

29. Xiaochun Wei, Ph.D, Xiaohu Wang, Pengcui Li, Zhi Lv, Zhaohui Yang, Min Zhang, Bin Zhao, Lizhi Li, Dennis Wei, Lei Wei. Proximal Fibular Osteotomy, A New Surgery For Pain Relief and Improvement of Joint Function in Human Knee Osteoarthritis: a Short-Term Clinical Study. ORS 2016 Annual Meeting at the Disney's Coronado Springs Resort in Orlando, Florida, March 5-8
30. Yang Zhang, Lei Wei, Guoqing Du, Shaowei Wang, Shawn Browning, Lewis Hanna. A2m And Targeted Designed Variants Inhibit Catabolic Proteases In An Aclt Rat Model By Fluorescence Molecular Tomography In Vivo. ORS 2016 Annual Meeting at the Disney's Coronado Springs Resort in Orlando, Florida, March 5-8
31. Chongwei chen, Xiaochun wei, Shaowei Wang, Qiang Jiao, Yang Zhang, Guoqing Du, Xiaohu Wang, Fangyuan Wei, Jianzhong Zhang, lei Wei. Compression Regulates Gene Expression Of Chondrocytes Through Hdac4 Nuclear Relocation Via Pp2a-depended Hdac4 Dephosphorylation. ORS 2016 Annual Meeting at the Disney's Coronado Springs Resort in Orlando, Florida, March 5-8
32. Shaowei Wang, Xiaochun Wei, Jingming Zhou, Chongwei Chen, Yang Zhang, Pengcui Li, Guoqing Du, Ge Zhang, Heng Wu, Lei Wei. Lipid Nanoparticle (LNP) - RNAi Delivery System, A Novel Therapeutic Strategy For Cartilage Diseases. NIRA Finalists. ORS 2016 Annual Meeting at the Disney's Coronado Springs Resort in Orlando, Florida, March 5-8
33. Lei Wei. Ihh is a potential target for OA treatment. International Symposium of Musculoskeletal Regeneration Research Network. Stockholm, Sweden. June 1-2, 2015.
34. Guoqing Du, Hongsheng Zhan, Shaowei Wang, Fangyuan Wei, Jianzhong Zhang, Xiaochun Wei, Anthony M Reginato, Braden C Fleming, Bahar Bilgen, Lei Wei. Abnormal Mechanical Loading Induces Cartilage Degeneration By Accelerating Meniscus Hypertrophy And Mineralization After Acl Injury in vivo. ORS 2015 Annual Meeting at the MGM Grand Hotel in Las Vegas, Nevada, March 28-31
35. Kun Cao, Xiaochun Wei, Li Guo, Shaowei Wang, Pengcui Li, changqi sun, Lei Wei. Decreased Hdac4 Plays A Critical Role In Human Oa Cartilage Degeneration By Releasing Hdac4 Inhibition Of Runx2 And Increasing OA-related Genes. ORS 2015 Annual Meeting at the MGM Grand Hotel in Las Vegas, Nevada, March 28-31
36. Jingming Zhou, Pengcui Li, Qian Chen, PHD, Xiaochun Wei, Ting Zhao, Zhengke Wang, Lei Wei. P38 Mitogen-activated Protein Kinase Regulates HDAC4 Degradation In Growth Plate Chondrocytes. ORS 2015 Annual Meeting at the MGM Grand Hotel in Las Vegas, Nevada, March 28-31
37. Shaowei Wang, Yaqiong Chang, Lei Wei, Guoqing Du, Shunwu Fan. India Hedgehog is correlated to Human Endplate Cartilage Degeneration. ORS 2015 Annual Meeting at the MGM Grand Hotel in Las Vegas, Nevada, March 28-31
38. Nathan P. Thomas and Lei Wei. Blocking CXCR4 attenuates PTOA pathogenesis. The thirteenth annual New England Science Symposium to be held on Sunday, April 6, 2014, from 7:45 AM – 4:30 PM at The Joseph B. Martin Conference Center at Harvard Medical School, 77 Avenue Louis Pasteur in Boston, Massachusetts.
39. Nathan P. Thomas, Braden C. Fleming, Richard Terek, Oian Chen, Lei Wei. Blocking of the SDF-1/CXCR4 Pathway Inhibits OA Cartilage Degeneration. the 60th ORS 2014 Annual Meeting in New Orleans, Louisiana, March 15-18 at the Hyatt Regency New Orleans.

40. Pengcui Li^{1,2}, Xiaochun Wei², Yuzhi Wei², Qian Chen, PHD¹, Richard Terek¹, Braden C. Fleming¹, Lei Wei¹. Blocking Hypoxia-Induced Production of CXCR4 by AMD3100 Inhibits Cartilage Degradation. Spotlight Sessions at the 60th ORS 2014 Annual Meeting in New Orleans, Louisiana, March 15-18 at the Hyatt Regency New Orleans.
41. Shaowei Wang^{1,2,3}, Pengcui Li^{1,2}, Xiaochun Wei², Yuzhi Wei², Jingming Zhou¹, Jing Zhang^{1,4}, Kai Li^{1,2}, Qian Chen, PHD¹, Richard Terek¹, Braden C. Fleming¹, Mary B. Goldring, PhD⁵, Michael G. Ehrlich¹, Ge Zhang⁶, **Lei Wei**¹. Identification Of Alpha 2 Macroglobulin (a2m) As A Master Inhibitor To Attenuate Post-traumatic Osteoarthritis Cartilage Degeneration. Spotlight Sessions at the 60th ORS 2014 Annual Meeting in New Orleans, Louisiana, March 15-18 at the Hyatt Regency New Orleans.
42. Lei Wei, Xiaochun Wei, Pengcui Li, Ming Pen. Blockage of SDF-1/CXCR4 by AMD3100 attenuates guinea pig OA cartilage degeneration. The 3rd CUHK stem cell and regeneration international symposium in Hong Kong (10-12 November, 2013)
43. Jingming Zhou, Fangyuan Wei, Shaowei Wang, Kai Li, Xiaochun Wei, Pengcui Li, Richard terek, Braden C Fleming, Qian Chen, Lei Wei. Deletion of Indian Hedgehog attenuates OA progression in human OA cartilage and Col2a1-CreER^{T2}; Ihh^{fl/fl} mouse induced by surgery. 2013-4-18-to 21-OARSI meeting in Philadelphia. PA USA.
44. Jingming Zhou(1); Yuzhi Wei(2); Xiaochun Wei(2); Shaowei Wang(1, 2); Ge Zhang(3); Qian Chen(1); Richard Terek(1); Lei Wei(1). Disrupting Ihh signaling pathway in vivo attenuates OA progression in Col2a1-CreERT2; Ihhfl/fl mouse induced by surgery. NIRA finalists and Podium at the ORS 2013 Annual Meeting in San Antonio, Texas, January 26-29 at the Henry B Gonzalez Convention Center.
45. Changqi Sun(1); Yuzhi Wei(2); Xiaochun Wei(2); Caroline Huang(1); Ge Zhang(3); Richard Tereck(1); Lei Wei (1). Decrease of HDAC4 is associated with OA cartilage degeneration by up-regulating OA related genes. Podium at the ORS 2013 Annual Meeting in San Antonio, Texas, January 26-29 at the Henry B Gonzalez Convention Center.
46. Lei Wei, Hongbin Li, Shaowei Wang, Kai Li, Pengcui Li, Douglas C Moore, Qian Chen, Ge Zhang, Xiaodu Wang, Xiaochun Wei. The Role of Indian Hedgehog (Ihh) in Fibular Fracture Healing in Col2a1-CreER; Ihhfl/fl and WT Mice. The Seventh International Congress of Chinese Orthopaedic Association (COA2012) on November 15-18, 2012. Beijing.
47. Indian Hedgehog is not required for Fibular Fracture Healing in Col2a1-CreER; Ihh^{fl/fl} Mice. 6th International Conference on Osteoporosis and Bone Research 2012 (ICOBR2012). Sept. 20-23, 2012 in Xi'an, China.
48. Xiaojuan Sun, Cherie Charbonneau, Lei Wei, Qian Chen, Richard Terek. CXCR4 targeted therapy for chondrosarcoma Treatment. the 64th Annual Meeting of The Association of Bone and Joint Surgeons
49. Wangping Duan; Yuzhi Wei; Lei Wei; Xiaochun Wei. A Decrease of the Cytoskeleton Components is associated with an alteration of Viscoelastic Properties in Aged Chondrocytes. ORS 2012 Annual Meeting in San Francisco, California, February 4-7 at the Moscone West Convention Center.
50. Yuze Wang; Yuzhi Wei; Lei Wei; Xiaochun Wei. Sources of Nutrition and Articular Cartilage Degeneration: An Experimental Study. ORS 2012 Annual Meeting in San Francisco, California, February 4-7 at the Moscone West Convention Center.

51. Xiaochun Wei; Yuzhi Wei; Xiaowei Wang; Braden Fleming; Richard Terek; Qian Chen; Ge Zhang; Lei Wei. A-2-Macroglobulin Inhibits Inflammatory Cytokines and MMPs in Osteoarthritis. ORS 2012 Annual Meeting in San Francisco, California, February 4-7 at the Moscone West Convention Center.
52. Lei Wei, Frank Wei, Jingming Zhou, Qian Chen, Xiaochun Wei. Indian Hedgehog, A New Marker and Target for Early Diagnosis and Treatment of Osteoarthritis. The sixth International Conference of Chinese Orthopaedic Association (COA). Beijing, December 1-4, 2011
53. Lei Wei Prevention of Osteoarthritis by inhibiting hedgehog signaling. 4th Northeast Regional IDEa Meeting. Salve Regina University, Newport, RI USA 8-10-2011to 8-12-11.
54. Yingjin Guan, Xu Yang, Lei Wei, Qian Chen. MIR-365: a mechano-sensitive microrna stimulates chondrocyte differentiation through targetin HDAC4. 4th Northeast Regional IDEa Meeting. Salve Regina University, Newport, RI USA 8-10-2011to 8-12-11.
55. Richard Terek, Xiaojuan Sun, Lei Wei. CXCR4 targted therapy for chondrosarcoma. 4th Northeast Regional IDEa Meeting. Salve Regina University, Newport, RI USA 8-10-2011to 8-12-11.
56. Fang Yuan Wei; Douglas Moore; Xiaochun Wei; Kai Li; Yanlin Li; Qian Chen; Lei Wei. Blockage of SDF-1 Binding to CXCR4 Attenuates OA Severity in Human Cartilage Explants and the Duncan-Hartley Guinea Pig Model of Primary Osteoarthritis. one of the 46 finalists for the Orthopaedic Research Society's New Investigator Recognition Awards (NIRA) competition at the ORS 2011 Annual Meeting in Long Beach, California, January 13-16. FINAL POSTER #: 0471. SESSION TITLE: NIRA Poster Session
57. Kai Li(1, 2); Angie guan(1); Xiaochun Wei(2); Qian Chen(1); Lei Wei(1). The identification of microRNA-31 in osteoarthritic cartilage that regulates the production of MMP-1, MMP-13, and VEGF. Podium, January 14, 2011 from 2:07pm to 2:14pm. ORS 57th 2011 Annual Meeting in Long Beach, California, January 13-16, 2011
58. Jingming Zhou(1); Kai Li(1, 2); Jing Zhang(1); Xiaochun Wei(2); Shaowei Wang(2, 1); Qian Chen(1); Lei Wei(1). α 1-antitrypsin, a potential candidate for internal control for human synovial fluid in western blot. ORS 57th 2011 Annual Meeting in Long Beach, California, January 13-16, 2011
59. Kai Li, Frank Wei, Jingming Zhou, Xiaochun Wei, Qian Chen, Braden Fleming, Richard Terek, Lei Wei. Activation of Indian Hedgehog Promotes Chondrocyte Hypertrophy Upregulation of MMP-13 in Human Osteoarthritic cartilage. International Conference on Osteoporosis and Bone Research (ICOBR). Oct. 28-31, 2010 in Shenzhen, China.
60. Lei Wei, Xu Yang, and Qian Chen Pre-clinical animal models of osteoarthritis. International Conference on Osteoporosis and Bone Research (ICOBR). Oct. 28-31, 2010 in Shenzhen, China.
61. Wei X., Li K., Wei L. Type II collagen fragment HELIX-II is a marker of early cartilage damage but is insensitive to predict progression of cartilage destruction in human knee joint synovial fluid9th World Congress of the International Cartilage Repair Society. Sept. 26 - 29, 2010, Sitges / Barcelona, Spain
62. Lei Wei, Rick Terek, Xiaochen Wei, Qian Chen. Stimulation of Chondrocyte Hypertrophy by Chemokine Stromal Cell-Derived Factor 1 in the Chondro-osseous Junction through a Positive Feedback Loop Mediated by Runx2. Present at the ORS 56th Annual Meeting, March 6-9, 2010 in New Orleans, Louisiana

63. Lei Wei, Frank Wei, Jingming Zhou, Xiaochen Wei, Rick Terek, Qian Chen. Activation of Indian Hedgehog Promotes Chondrocyte Hypertrophy and Upregulation of MMP-13 in Osteoarthritic Cartilage. Present at the ORS 56th Annual Meeting, March 6-9, 2010 in New Orleans, Louisiana. Podium
64. Wesley Wu, Frank Wei, Gregory D. Jay, Khaled A. Elsaid, Qian Chen, Michael G. Ehrlich, Lei Wei. Assessing the Role of Synovial Inflammation, SDF-1, IL-1-Beta, TNF-alpha, and Lubricin in the Pathogenesis of Morphologically Similar Natural and Post-traumatic Hartley Guinea Pig OA Models. Present at the ORS 56th Annual Meeting, March 6-9, 2010 in New Orleans, Louisiana
65. Xiaojuan Sun, Lei Wei, Qian Chen, Rick Terek. CXCR4/SDF-1 Promote Angiogenesis in Chondrosarcoma. Present at the ORS 56th Annual Meeting, March 6-9, 2010 in New Orleans, Louisiana
66. Angie Guan, Qian Chen, Lei Wei. Subcellular Relocation of Histone Deacetylase 4 Regulates Growth Plate Chondrocyte Differentiation through Ca²⁺/Calmodulin-Dependent Kinase IV. 55th ORS meeting in Las Vegas, Nevada 2009. New Investigator Recognition Awards (NIRA).
67. Mauricio Valdez et al, Lei Wei, Changqi Sun, Xiaojuan Sun and Wentian Yang. Role of Naloxone in osteoblastic differentiation. 2009 AAOS Annual Meeting, in Las Vegas, Nevada, Feb. 25-28, 2009
68. Richard Terek, Lei Wei, Qian Chen, xiaojuan Sun. MMP-1 expression is regulated by CXCR4/SDF-1 in chondrosarcoma cells. 55th ORS meeting in Las Vegas, Nevada 2009
69. Wei, L., et al. Critical Roles for Chemokine SDF-1 Signaling in Development of Growth Plate Chondrocyte Hypertrophy. the ICOBR 2008 as an Oral Presentation. Oct. 22-25, 2008, Beijing China
70. Wei, L., et al. HDAC4 regulates growth plate development. NIH 2nd Biennial National IDEa Symposium of Biomedical research Excellence (NISBRE). August 6-8, 2008, Washington DC
71. Wei, Lei. Relocation of HDAC4 regulates growth plate chondrocyte differentiation. Keynote speaker, Rhode Island Research Alliance Symposium, June 3, 2008. Providence, RI.
72. Sun, X; Wei, L; Block, JA; Chen, Q; Terek RM. CXCR4 is crucial for chondrosarcoma cell invasion regulated by Hif1a. 54th Orthopaedic Research Society Annual Meeting, March 2-5, 2008, in San Francisco, CA. Podium presentation
73. Wei L., Fleming BC, Sun X., Teeple E., Wu W., Jay G.D., Elsaid K.A., Luo J., Chen Q. A Comparison of Differential Biomarkers of Osteoarthritis with and without Post-traumatic Injury in the Hartley Guinea Pig Model. 54th Orthopaedic Research Society Annual Meeting, March 2-5, 2008, in San Francisco, CA
74. Sun, C; Yang, X; Wei, L; Weiss, KE; Wang, Z; Chen, Q. IDENTIFICATION OF THE CLUSTERED EPITHELIAL GROWTH FACTOR REPEATS IN MATRILIN-3 AS AN ANTAGONIST OF BONE MORPHOGENETIC PROTEIN SIGNALING. 53th Orthopaedic Research Society Annual Meeting, February 11-14, 2007, in San Diego, CA
75. Sun, X; Lei Wei; Block, JA; Chen, Q; Terek RM. OVEREXPRESSION OF HDAC4 DOWN-REGULATES VASCULAR ENDOTHELIAL GROWTH FACTOR EXPRESSION IN CHONDROSARCOMA CELLS BY MODULATING RUNX2 EXPRESSION. 53th Orthopaedic Research Society Annual Meeting, February 11-14, 2007, in San Diego, CA

76. Namdari, S; Moore, DC; Lei Wei; Chen, Q. CHRONIC CARTILAGE-SPECIFIC REDUCTION OF P38 MAP KINASE ACTIVITY IN TRANSGENIC MICE WORSENS ORTEOARTHTRITIS. 53th Orthopaedic Research Society Annual Meeting, February 11-14, 2007, in San Diego, CA
77. Yang, X; Luo, J; Lei Wei; Wang, Z; van der Weyden, L; Bradley, A; Chen, Q. MATRILIN-3 MODULATES CHONDROCYTE HYPERTROPHY THROUGH BONE MORPHOGENETIC PROTEIN. 52th Orthopaedic Research Society Annual Meeting, March 19-22, 2006, in Chicago, Illinois
78. Luo, J; Zhang, Y; Wang, Z; Lei Wei; Chen, Q. FUNCTIONAL DIFFERENCES UNDERLYING MATRILIN-3 MUTATIONS IN SPONDYLO-EPI-METAPHYSEAL DYSPLASIA AND IN HAND OSTEOARTHRITIS. 52th Orthopaedic Research Society Annual Meeting, March 19-22, 2006, in Chicago, Illinois
79. Wang, Z; Yang, X; Lei Wei; Luo, J; Chen, Q. TRICHOSTATIN A, A HISTONE DEACETYLASE INHIBITOR, BLOCKS CARTILAGE DIFFERENTIATION BY INHIBITING CHONDROCYTE GENE EXPRESSION. 52th Orthopaedic Research Society Annual Meeting, March 19-22, 2006, in Chicago, Illinois
80. Sun, X; Lei Wei; Block,JA; Terek RM. OVEREXPRESSION OF HDAC4 DOWN-REGULATES VASCULAR ENDOTHELIAL GROWTH FACTOR EXPRESSION IN CHONDROSARCOMA CELLS BY MODULATING RUNX2 EXPRESSION. 52th Orthopaedic Research Society Annual Meeting, March 19-22, 2006, in Chicago, Illinois
81. Lei Wei; Xiaojuan Sun, Zhenk Wang, Richard Terek, and Qian Chen. INHIBITING CHEMOKINE STROMAL CELL DERIVED FACTOR-1 INDUCED CARTILAGE DEGRADATION by SMALL INTERFERING RNA and by MONOCLONAL ANTIBODY THERAPY. 52th Orthopaedic Research Society Annual Meeting, March 19-22, 2006, in Chicago, Illinois
82. Sun, X; Lei Wei; Lee, J; Liu, J; Terek, R; and Qian Chen. CHEMOKINE STROMAL CELL-DERIVED FACTOR-1 INDUCES MATRIX DEGRADATION, CHONDROCYTE MIGRATION, AND FISSURE FORMATION IN ARTICULAR CARTILAGE. 51th Orthopaedic Research Society Annual Meeting, February 20-23, 2005, in Washington, D.C
83. Sun, X; Lei Wei; Hopper, J; and Chen, Q. Mannosyltransferase I: Regulating chondrocyte differentiation and apoptosis through interaction with p38 MAP Kinase. 51th Orthopaedic Research Society Annual Meeting, February 20-23, 2005, in Washington, D.C
84. Namdari, S; Moore, DC; Lei Wei; Chen, Q. PARTIAL REDUCTION OF P38 MAPK ACTIVITY INHIBITS LONGITUDINAL BONE GROWTH BUT DOES NOT AFFECT BONE BIOMECHANICAL PROPERTIES. 51th Orthopaedic Research Society Annual Meeting, February 20-23, 2005, in Washington, D.C
85. Kanbe, K; Inoue, K; Xiang, C; Lei Wei; Chen, Q. GENE EXPRESSION ANALYSIS OF CHONDROCYTE MECHANICAL RESPONSE BY LARGE SCALE DNAMICROARRAY 50th Orthopaedic Research Society Annual Meeting, March 7-10, 2004, in San Francisco, CA
86. Kanbe, K; Lei Wei; Sun X; Chen, Q. FACTOR-1/CXC CHEMOKINE RECEPTOR 4 PATHWAY STIMULATION OF CHONDROCYTE HYPERTROPHIC PHENOTYPE BY STROMAL CELL DERIVED FACTOR-1/CXC CHEMOKINE RECEPTOR 4

- PATHWAY 50th Orthopaedic Research Society Annual Meeting, March 7-10, 2004, in San Francisco, CA
87. Sun X; Lei Wei; Kanbe K; Davis CM; Chen Q. CHEMOKINE STROMAL CELL-DERIVED FACTOR-1 INDUCES CHONDROCYTE DEATH THROUGH NECROSIS. 49th Orthopaedic Research Society Annual Meeting, February 2-5, 2003, in New Orleans, LA
 88. Sun X; Lei Wei; Cheah K; Bronson S; Chen Q ABOLITION OF ENDOCHONDRAL BONE FORMATION BY A DOMINANT NEGATIVE P38 MAP KINASTRANGENE IN A TRANSGENIC MOUSE MODEL 49th Orthopaedic Research Society Annual Meeting, February 2-5, 2003, in New Orleans, LA
 89. Lei Wei;; Sun X., Chen, Q. Suppression of cell death and OA progression by inhibiting intracellular p38 MAP kinase in chondrocytes: In vitro and in vivo evidence. 2002 OARSI World Congress (2002 Osteoarthritis Research Society International (OARSI) Young Investigator Award) Sep. 22-25, 2002 in Sydney, Australia.
 90. Xiaojuan Sun, Lei Wei, Charles M. Davis, III, and Qian Chen. Anti-Fas Induction of apoptosis in human osteoarthritic chondrocytes through activating transcription factor 2 and caspase-3: dependence on p38 mitogen-activated protein kinase. 48th Orthopaedic Research Society Annual Meeting, February 10-13, 2002, in Dallas, Texas.
 91. Xiaojuan Sun, Lei Wei, and Qian Chen. Molecular Molecular selection of cell lineages between intramembranous and endochondral ossification: important roles of p38 Mitogen-activated Protein Kinase. 48th Orthopaedic Research Society Annual Meeting, February 10-13, 2002, in Dallas, Texas.
 92. Lei Wei, Edin de Bri, Xiaojuan Sun, Anders Hjerpe, Olle Svensson, Qian Chen. Dramatic decrease of IGF-I messenger RNA is associated with progressive loss of chondrocytes and PG in a guinea pig primary OA model. 47th Orthopaedic Research Society Annual Meeting, February 25-28, 2001, in San francisco, California.
 93. Lei Wei and Qian Chen. The MKK6/p38 MAPK pathway is essential to determine chondrocyte proliferation and hypertrophy. 47th Orthopaedic Research Society Annual Meeting, February 25-28, 2001, in San francisco, California.
 94. Lei Wei and Qian Chen. Regulation of chondrocyte death during endochondral ossification by p38 mitogen-activated protein kinase: mechanism of coupling hypertrophy and apoptosis. 47th Orthopaedic Research Society Annual Meeting, February 25-28, 2001, in San francisco, California.
 95. Lei Wei, Edin de Bri, Xiaojuan Sun, Anders Hjerpe, Olle Svensson, and Qian Chen. A primary osteoarthritis animal model. Decrease of IGF-1 mRNA is associated with loss of chondrocytes and proteoglycans in aging guinea pig joints. The third biennial arthritis research conference, March 23-25, 2001, in San Diego.
 96. Wei, L., Hultenby K., Hjerpe A., Brismar H., and Svensson O. Distribution of Chondroitin 4 sulfate Epitopes (2/B/6) in Spontaneous Guinea Pig Osteoarthritis. SIROT 2000 CHINA and CSOS 2000 CHINA, May 5-10, 2000, Shanghai-Beijing, China.
 97. Wei, L., Hjerpe A and Svensson O. Effect of Load on Articular cartilage matrix and development of guinea pig osteoarthritis. SIROT 2000 CHINA and CSOS 2000 CHINA, May 5-10, 2000, Shanghai-Beijing, China.
 98. Wei, L., Hjerpe A., Svensson O. Distribution of Proteoglycans in Primary Guinea Pig Osteoarthritis. 9th Conference of the European Orthopaedic Research Society Combined with the 4th EFFORT Meeting, in Brussels, June 3-4, 1999.

99. Wei, L., Svensson, O, and Hjerpe, A. Proteoglycans and collagen content in knee articular cartilage of guinea pig during development of primary osteoarthritis. European Orthopaedic Research. 7th Annual Conference April. 22-23, 1997, Barcelona, Spain. Transaction Volume 7, Page 152.
100. Wei, L., de Bri E., Lundberg A., Brismar H., and Svensson, O. Mechanical load and primary guinea pig osteoarthritis. European Orthopaedic Research. 7th Annual Conference April. 22-23, 1997, Barcelona, Spain. Transaction Volume 7, Page 150.
101. Wei, L., Svensson, O, and Hjerpe, A. Articular cartilage proteoglycans during development of primary osteoarthritis in the guinea pig. Nordic Orthopedic Federation 48th congress, 12-15 June 1996. Bergen-Norway. Oral Presentation.
102. Edin de Bri, Wei L., Finn P Reinholt, silva MW, Dick Heinegard, and Svensson O. Ultrastructural immunolocalization of bone sialoprotein in guinea pig osteoarthritis. 42nd Annual Meeting, Orthopaedic Research Society, February 19-22, 1996, Atlanta. Georgia. Volume 21-Section2, page 745.

g. Invited lectures;

Lei Wei, Relocation of HDAC4 regulates Growth Plate Chondrocyte Different ion. Rhode Island Research Alliance 06-01-08

Lei Wei, The role of HDAC4 in Growth Plate Development. 08-06-08 2nd Biennial National IDeA Symposium in Washington DC.

Lei Wei, Blockage of SDF-1/CXCR4 pathway attenuates osteoarthritis severity. The Fifth International Congress of Chinese Orthopaedic Association (COA) on November 11-14, 2010, Pride International Convention Centre, Chengdu, China

Lei Wei, Prevention of Osteoarthritis by inhibiting hedgehog signaling. 4th Northeast Regional IDeA Meeting. Salve Regina University, Newport, RI USA 8-10-11-8-12-11

Lei Wei, Indian Hedgehog is not required for Fibular Fracture Healing in *Col2a1-CreER*; *Ihh^{fl/fl}* Mice. 6th International Conference on Osteoporosis and Bone Research 2012 (ICOB2012). Sept. 20-23, 2012 in Xi'an, China.

Lei Wei, Ihh in fracture healing. The Seventh International Congress of Chinese Orthopaedic Association (COA) on November 15-18, 2012, Beijing, China

Lei Wei, Ihh in OA development. Orthopedics & Traumatology Department, Shuguang Hospital, Shanghai University of Traditional Chinese Medicine. July 18, 2013

Lei Wei, OA early marker and therapy. Xinyi City People's Hospital, Guizhou, China 7-27-13

Lei Wei, Blocking CXCR4/SDF-1 attenuates OA. The 3rd CUHK stem cell and regeneration international symposium in Hong Kong (10-12 November, 2013)

Combination of histone deacetylase 4 with TGF- β 1 accelerates synovium-derived stem cell chondrogenesis but inhibits its hypertrophy. The 3rd CUHK stem cell and regeneration international symposium in Hong Kong (10-12 November, 2013)

Lei Wei, Current OA treatment. Foot and Ankle international symposium in Beijing, China (17-18 July, 2014)

Lei Wei, Identify A2M as a novel inhibitor for PTOA treatment. 2014 Foot and Ankle international symposium in Guiyang, China (16-18 October, 2014)

Lei Wei, A2M in PTOA. The 4th CUHK stem cell and regeneration international symposium in Hong Kong (17-18 November, 2014)

Lei Wei, The role of HDAC4 and Ihh from development to degeneration. The Dept of Orthopedic. Duke medical school (11 November, 2014).

Lei Wei, Indian Hedgehog, a Critical Modulator for growth plate development and Osteoarthritis, could be a Potential Therapeutic Target for Attenuating Osteoarthritis. 2015 Chinese Foot and Ankle surgery (Foot & Ankle trauma) international symposium in Hohhot city, Inner Mongolia Province, China (24-27 June, 2015)

Lei Wei, Alpha-2-Macroglobulin: A new biologic inhibitor for Post-traumatic osteoarthritis therapy. 2015 China International Conference on Trauma and Critical care. Guiyang, China. 8-15-2015

Lei Wei, The role of Ihh from development to degeneration. International Symposium of Musculoskeletal Regeneration Research Network. CLINTEC, Karolinske institute, Stockholm, Sweden (June 1-2, 2015).

Lei Wei. Proximal Fibular Osteotomy, An alternative Surgery for Pain Relief and Improvement of Joint Function. ICMORS meeting in Xi'an, China. 9-21-16 to 9-25-2016

Lei Wei. Can we prevent PTOA? 4th Annual world congress of Orthopedics. 9-21-17to 9-25-17 Taiyuan,, China

Lei Wei. Deleted Ihh in Mesenchyme promotes chondrocyte hypertrophy and pathological matrix calcification. Podium presentation. ICRS Vancouver, Canada, Oct. 5-8, 2019

Wang XW, Wei L. ALPHA 2 MACROGLOBULIN, A NOVEL MASTER INHIBITOR ATTENUATES POST-TRAUMATIC OSTEOARTHRITIS BY BLOCKING IL-1-NF-KB pathway. the 2020 World Congress on Osteoarthritis, May 2, 2020 in Vienna, Austria.

- h. Paper read;
- i. Work in review;
- j. Work in progress;
 - 1. A2M Inhibits Chondrocyte Catabolism by Blocking IL-1 β /NF- κ B Pathway
 - 2. A novel PTOA mechanically stable model of inflammation
 - 3. A2M prevents PTOA: a translational study in Yucatan mini-pigs

7. Research GRANTS:

a. Current grants

DoD W81XWH1910516 (Lei Wei PI), 08/15/2019-8/14/2024. \$1,915,469.00

Intra-articular Injection of α 2-Macroglobulin Prevents Post-traumatic OA

The major goal of this study is to test if A2M can prevent PTOA.

NIH/ the National Institute of General Medical Science, 2P20-GM104937, 09/15/2007-07/31/2022.

Role: Co-Director of imaging and molecular biology core / center for biomedical research excellence in skeletal health and repair. (12% effort)

Total: \$1,155,000. Qian Chen (COBRE PI)

COBRE for Skeletal Health & Repair: Phase III - Pilot Project 1. 5P30GM122732-02 1/1/2019-8/31/2021. (Qian Chen PI). Role: Co-investigator Total: \$100,000.

Developing Senostatics for Osteoarthritis Treatment. The major goal of this study is to explore the relationship between aging and OA.

STTR grant NanoDe (Subcontract PI) supported by NanoDe Therapeutics, Inc.

3/1/2020- 2/28/2022. Total: \$184,999

The Mechanisms and Treatment of Osteoarthritis. The major goal of this study is to develop Nanopieces, a Platform RNAi Delivery Technology for Treatment of Multiple Diseases

b. completed grants

Cytonics Corporation (lei Wei, PI), (39% effort) 03/01/15-2/28/2019

Comparison of A2M variants to wild type A2M in the attenuation of OA in an ACLT rat model. \$159,400

The major goal of this study is to evaluate the use of target variants of A2M for osteoarthritis (OA) of the knee.

Orthofix, INC. (Roy Aaron, PI) 01/01/2016-2/28/2019

Lei Wei as investigator responsible for biomarkers study in lab. (30% effort, 3.6 calendar months)

Osteoarthritis IDE Biomarker study. \$609,706

The major goal of this study is to evaluate the use of pulsed electromagnetic field (PEMF) technology for osteoarthritis (OA) of the knee.

NIH/NIAMS (Lei Wei, PI) 1R01AR059142-01A1, 02/01/2011-01/31/2018.

Histone Deacetylation Regulates Growth Plate Development. (39% effort)

The major goal of this study is to evaluating how HDAC4 Regulation of growth plate development. Total cost: \$1,554,505 (Under renewal)

China Initiative Collaboration Grants supported by Brown University: 06/01/2018. \$5,000.

Lei Wei PI

NIH/ the National Institute of General Medical Science, P20 GM104937-06 (Sub-Project ID: 7865), 09/15/2007-07/31/2012.

Principal Investigator (**24%**), Regulation of growth plate development by nuclear factors. Total: \$1,155,000.

NIH/ NCRR COBRE Administrative Supplement to COBRE for Skeletal Health & Repair-Translational, 08/01/2009-07/31/2011. Principal Investigator for Sub-project: Disrupting SDF-1/CXCR4 signaling pathway in vivo by systemic injection of CXCR4 inhibitor AMD3100 will attenuate pathogenesis of cartilage joint degeneration in a mouse osteoarthritis model \$100,000.

NIH/NIAMS (Lei Wei, **30%**) 1R03 AR052479-01A1, 04/01/2006-9/30/2010.

Principal Investigator, Chemokine Regulation of Cartilage Matrix Resorption. \$231,000

Aircast Foundation (Lei Wei, **5%**), 03/01/08-1/31/2011

Principal Investigator, Disruption of SDF-1 signaling inhibits cartilage degeneration and attenuates osteoarthritis pathogenesis \$100,000

Arthritis National Research Foundation (Lei Wei, PI), 05/01/10-8/31/2012

Principal Investigator, Role of Ihh in OA cartilage. \$150,000

RIH Orthopedic Foundation (Lei Wei), 09/15/2008-09/14/2010. The Pathology Process of the Post-Traumatic OA Model is Different from the Naturally Developed OA model in Guinea Pigs. The goal of this study is to identify different biomarkers between the second OA and primary OA.

Disclosing Other Support (based on NIH new policy Release: July 10, 2019: regardless of whether or not they have monetary value)

International collaborative studies:

PTHrP regulates growth plate development. 1-1-2016 to 12-31-2019 supported by national natural science foundation of china (NSFC). \$21,458/per year (direct and indirect cost). No overlap with my current study.

Role of HDAC4 in early OA development. 1-1-2018 to 12-31-2021 supported by NSFC. \$19,642/per year (direct and indirect cost). No overlap with my current study.

I had a voluntary appointment as honorary professor at Orthopedic research lab of Shanxi medical university (2010-2017). Chinese colleagues and I applied NSFC grants together. These grants cannot be used to support any salary and only can be used in Orthopedic research lab of Shanxi medical university for experiment supply. The grants have been transferred to Professor Li completely since they were founded because I am full time employee in USA and don't have time back to China. I only work as academic consultant from science point and edited manuscript as co-author. Again, there is no financial support for my salary and experiments performed in my lab from the grants. Currently, there is no intellectual property. I may share an intellectual property if they generate in future. Due to 12 hours difference between US and China, I

communicated with my Chinese colleague in night if they want to talk to me occasionally. I never calculate how much time I spent with them, but I believe the time effort is less than 2-3 hours/per month.

I have been consulting Dr. Jing Den who is a professor in Guizhou medical university. He is studying growth plate injury and regeneration. The study is performed in Guizhou medical university and Dr. Jing Den is a PI. I only provide academic consultant from science point. This may result in a co-author in future. There is no overlap with my current study.

c. Proposals submitted

8. Services:

a. UNIVERSITY

Master thesis committee member: Albert (Yu Ting) Lin, Brown University Biology,
Master's thesis committee 4-8-2022

Ph.D. Qualifying Exam Committee Member

Biomedical Engineering PhD final defense Committee Member 6-2-2017 for Lei Zhang. Thesis title: Molecular diagnostics using biosynthetic engineering and microfluidic designs

Biomedical Engineering PhD final defense Committee Member 5-12-2017 for Lei Zhang

Biomedical Engineering PhD Qualifying Committee Member 3-12-2015 for Lei Zhang

Internal committee of center for biomedical research excellence in skeletal health and repair

Co-Director of imaging and molecular biology core / center for biomedical research excellence in skeletal health and repair

The extracellular vesicle core steering committee of the COBRE Center for Stem Cells and aging

Active voting of Brown different committee and attending faculty meeting.

Journal club series:

COBRE/Orthopedics journal club series since June, 2013-2014

COBRE/Orthopedics journal club series since June, 2018-2019

Equipment Committee (Orthopedic lab) since 2019

b. Profession

MEMBERSHIP IN SOCIETIES

1999-current: U.S. Orthopedic Research Society (ORS).

2001-current: International Chinese Musculoskeletal Research Society (ICMRS).

2019-current: Program Committee member of International Chinese Musculoskeletal Research Society

2009-current: International Cartilage Repair Society (ICRS).

2011-current: American Physiological Society

2011-current: Osteoarthritis Research Society International (OARSI)

2021-current: The Academic Orthopaedic Consortium

Moderator

Moderator for 2016 ORS NIRA, Saturday May 5, 2016 8:00-9:00 AM. ORS 2016 Annual NIRA selected committee member 2016 ORS

Meeting at the Disney's Coronado Springs Resort in Orlando, Florida, March 5-8

Moderator for the 3rd CUHK stem cell and regeneration international symposium in Hong Kong (10-12 November, 2013)

Moderator for 55th ORS meeting in Las Vegas, Nevada 2009 (Session 26 Osteoarthritis)

Moderator for 54th ORS meeting in San Francisco 2008 (Session 36 Mechanical Causes of OA)

Moderator for COBRE for Skeletal Health & Repair External Advisory Board Meeting 6-6-2013, Providence, RI

Moderator for COBRE for Skeletal Health & Repair retreat symposium 5-28-2015, Hyatt Regency Newport, RI

Moderator for COBRE for Skeletal Health & Repair retreat symposium 2019, Brown faculty club, RI

Abstract Review

Abstract Reviewer for the 55th Annual Meeting of the Orthopaedic Research society (2009) (Cartilage/Meniscus/Synovium-Cartilage Matrix Degredation/MMPs, ADAMTSs, ADAMs).

Abstract Reviewer for the International Chinese Hard Tissue Society. 2004, 2005, 2006, 2008

Abstract Reviewer for 2015 ORS PTOA

Abstract Reviewer for 2016 ORS PTOA

Abstract Reviewer for 2017 ORS PTOA

Abstract Reviewer for 2018 ORS Development

Abstract Reviewer for 2019 ORS Cartilage and OA

Abstract Reviewer for 2020 ORS Cartilage and OA

Abstract Reviewer for 2021 ORS Cartilage and OA

Serve as a panel of reviewers to serve the 2022 11th ICORS Research Congress on September 7-10, 2022, at Edinburg in Scotland

ORS Mentor program

Participation in ORS Mentor program since 2007

Journal Review:

Journal Reviewer for Journal of Rheumatism 2004

Journal Reviewer for American Cancer Letter 2005

Journal Reviewer for Cell Biology International 2007

Journal Reviewer for Arthritis Research & Therapy 2008

Journal Reviewer for Molecular and Cellular Biochemistry 2011

Journal Reviewer for Arthritis & Rheumatism 23-Aug-2011 (2015 Arthritis & Rheumatology)

Journal Reviewer for ANNALS of the New York Academy of Sciences Sep. 7, 2011

Journal Reviewer for Cell Biochemistry and Biophysics Dec. 7, 2011
Journal Reviewer for Journal of Rheumatism 2012
Journal Reviewer for Osteoarthritis and Cartilage 2012
Journal Reviewer for Journal of Orthopedic Research 2013 - present
Journal Reviewer for Journal of Biomedical Science 2013
Journal Reviewer for British Journal of Pharmaceutical Research 2013
Journal Reviewer for Aging Cell 2014
Journal Reviewer for BBA - Molecular Cell Research 6/ 2016
Journal Reviewer for Journal of Inflammation 2014
Journal Reviewer for British Journal of Medicine and Medical Research 2014
Journal Reviewer for Scientific reports 2014
Journal Reviewer for PLOS ONE 2015
Journal Reviewer for Acta Biochimica et Biophysica Sinica (ABBS) 8/2016
Journal Reviewer for Oncotarget 8/2016
Journal Reviewer for Am J Sports Med 2016
Journal Reviewer for Journal of Cellular Physiology 2015
Journal Reviewer for Journal of Orthopaedic Translation 2017
Journal Reviewer for Journal of Bone and Mineral Research (JBMR) 2018
Journal Reviewer for Journal of Pain Research 2019
Journal Reviewer for Science Advances 2019
Journal Reviewer for Frontiers in Immunology 2019
Journal Reviewer for Development 2019
Journal Reviewer for Journal of Cellular and Molecular Medicine 2020
Journal Reviewer for Nature Biomedical Engineering 3-6-2020
Journal Reviewer for Gene Report 5-16-2022

Editorial Board

Editorial Board Member of Rheumatology Since 2011(Executive Editor)
Editorial Board of the Foot and Ankle Surgery Electronic Magazine 2014
Journal of Orthopaedic Translation 9/7/2018
Review Editor on the Editorial Board of Stem Cell Research (specialty section of Frontiers in Cell and Developmental Biology, Frontiers in Genetics, Frontiers in Oncology and Frontiers in Bioengineering and Biotechnology) 2/2021

Grants Review:

Arthritis foundation 2012: Peer review of Innovative Research Grant
Arthritis foundation 2013: Peer review of Innovative Research Grant
AO Foundation since 2010 to present: Reviewing grant applications for AO foundation.
Strategic Development Fund Hong Kong Baptist University (HKBU) since 2012
Grant review 5/2015 to present: Health and Medical Research Fund from The Government of the Hong Kong Special Administrative Region (HKSAR)
Shum Yiu Foon Shum Bik Chuen Memorial Centre for Cancer and Inflammation Research (CCIR) of Hong Kong Baptist University (HKBU) since 2017

DoD Medical Research Program (PRMRP pre-ART panel: Arthritis) 2015
Arthritis Foundation Delivery on Discovery Proposals 2015

DoD the Clinical and Rehabilitative Medicine Research Program (CRM) for Department of Defense Congressionally Directed Medical Research Programs (CDMRP) 12-28-2015
DoD for the Surgical Care-2 (SC-2) peer review panel of the 2016 Peer Reviewed Orthopaedic Research Program (PRORP) for the Department of Defense Congressionally Directed Medical Research Programs (CDMRP).
DoD peer review panel for 2017 pre-application Investigator-Initiated Research Award.
DoD Scientist Reviewer for the 2020 Peer Reviewed Medical Research Program on the Preapplication - Arthritis (PRE-ART) panel
Research Proposal for Initiation Grant for Faculty Niche Research Areas [RC- IG-FNRA /17-18/10] Grant review 4/2018
Health and Medical Research Fund from The Government of the Hong Kong Special Administrative Region (HKSAR) Grant review 5/2019
Grant review for Health and Medical Research Fund under The Government of the Hong Kong Special Administrative Region (HKSAR) 9/2020
DoD the 2021 Peer Reviewed Medical Research Program on the Preapplication - Arthritis (PRE-ART) panel

Journal club series:

Orthopedics journal club series since June, 2013-2014
Orthopedics journal club series since June, 2018-2019

External University Activities

External examiner for Frank Wei's PhD. thesis entitled "Effect of low intensity pulsed ultrasound on mesenchymal stem cell recruitment in fracture healing in young and osteoporotic rat models" (The Chinese University of Hong Kong) (May, 2013)

Colby College and other college Summer Research

2019 Jeffrey Yu, Northeastern University 2022 Biology
2018 Jeffrey Yu, East Greenwich High School student
2018 Dennis L. Wei, a Northeastern University Bioengineer
2015 Eli Mitnick summer research
2013 Chris Millman 2013 LNP-RANi delivery system
2008 Heather Liu- The Mechanism of Rabbit Growth Plate Closure Induced By Stromal Cell-Derived Factor-1 Causes the Depletion of Resting Zone Chondrocytes

International Graduate Students

Heng Wu: Brown-Hong Kong Chinese University Exchanged Student 6-1-12-8-31-2012
Boris Guo: Brown-Hong Kong Chinese University Exchanged Student 5-1-12-7-31-2012

ORTHOPAEDIC RESIDENTS AND FELLOW RESEARCH PROJECT ADVISOR AND COLLABORATOR

Tina Zhao is a first-year resident at St Joseph's Hospital in Syracuse, and will be moving onto her radiology residency at the University of Rochester next year. She is working my lab 10/18/2021 - 1/9/2022 to study early x-ray changes in PTOA using Yucatan pig.

Mark Lee: SDF-1 closes growth plate

Ying Li: Articular cartilage change with aging in matrin-1 knock out mice

Clifford Voigt, MS III: Epiphysiodesis with Infusion of SDF-1: Analysis of Treatment Duration

Lee, Joseph: The distribution of IGF-1 in Guinea Pig Primary OA

2008 Mauricio Valdez: Role of Naloxone in osteoblastic differentiation

2008 Clifford Voigt, MS III: Epiphysiodesis with Infusion of SDF-1: Analysis of Treatment Duration

2008 Deborah Appleyard et al. Cartilage viability after treatment with several sterilizing agents
Mauricio Valdez, Lei Wei, Changqi Sun, Xiaojuan Sun and Wentian Yang. Role of Naloxone in osteoblastic differentiation. 2009 AAOS Annual Meeting

2009 Clifford Voigt, MS III: Epiphysiodesis with Infusion of SDF-1: Analysis of Treatment Duration

2009 Deborah Appleyard et al. Cartilage viability after treatment with several sterilizing agents

2009 Ed Cheung: Epiphysiodesis with Infusion of SDF-1: Analysis of Treatment Duration

2010 Mauricio Valdez: Naloxone induces bone marrow stem cell differentiation into osteoblasts

2010 Ed Cheung: Continuing Epiphysiodesis with Infusion of SDF-1: Analysis of Treatment Duration

Postdoctoral training in my Lab

Charles Sun Ph.D., 2011-2015: miR-1 transgenic mice, Biological Sciences Department of Biological Sciences, Japan

Angie Guan Ph.D., 2007-2009: the expression of miRNAs in growth plate and cartilage

Jingming Zhou Ph.D., 2009-present, Biological Sciences Department of Biological Sciences, Wayne State University, Detroit, MI

Xiaojin Wang, M.D., Ph.D., 12/2018-12/2019

Total number 10.

c. Other Community activities

PTO active member 2003-2019 for Barrington Public School, RI 02806

1/2016-present Rhode Island Association of Chinese Americans scholarship Award Committee member

4/2016 USA / the Science Advisory Board member. Established in 1997, The Science Advisory Board

9. academic honors, fellowship, honorary societies:

Visiting Scholarship, China Government Education foundation (1994-1995).

Research Fellowship, Shrine Hospital for Children, USA (12/1999-8/2001).

New Investigator Recognition Awards, Orthopaedic Research Society (2001)

Young Investigator Award, Osteoarthritis Research Society International (OARSI) (2002)

Young Investigator Award, Osteoarthritis Research Society International (OARSI) (2005)

Young Investigator Award Winner, NIH 2nd Biennial National IDeA Symposium of Biomedical research Excellence (NISBRE). August 6-8, 2008, Washington DC

Webster Jee Travel Awards. International Conference on Osteoporosis and Bone Research (ICOBR). Oct. 22-25, 2008 in Beijing, China.

Best Paper Award on 2008 International Conference on Osteoporosis and Bone Research Oct. 22-25, 2008 in Beijing, China.

The Grace Haussner Memorial Fellow of the Arthritis National Research Foundation (2010).

Chinese Orthopaedic Association Zhao Yisu basic science Awards on The Fifth International Congress of Chinese Orthopaedic Association (COA) on November 11-14, 2010, Pride International Convention Centre, Chengdu, China

The Master of Arts and Eudem degree 5/26/2013 from Brown University, Providence, RI USA

2011-13 and 2015-2017: Honorary Professor in Orthopedic research lab of Shanxi medical university

SDF-1/CXCR4 has a critical role during growth plate development. The finding has an important significance for understanding osteoarthritis development. The paper has been selected for Faculty of 1000 Medicine (www.f1000medicine.com) and evaluated by Linda Sandell (Editor in chief of Osteoarthritis and Cartilage) (<http://www.f1000medicine.com/article/>).

2/2/2019 my postdoc. Jian Sun Postdoc. 2019 Webster Jee Young Investigator Awards 2019 ORS Austin, TX

The Arthritis & Rheumatology (A&R) Editorial Board has selected our findings “Positive Effects of a Young Systemic Environment and High Growth Differentiation Factor 11 Levels on Chondrocyte Proliferation and Cartilage Matrix Synthesis in Old Mice.” to be highlighted in A&R Journal’s “Clinical Connections” feature, which appears in the front of the print and online issues.

10. Teaching:

Brown University Course: Spring 2022 Course: BIOL-1960 (Kenny Chang and Elias Sw)

Brown University Course: Spring 2022 CRN: 21081 Course: BIOL-1960-S96 (Elias N Schwarts)

Brown University Course: BIOL 1950-S96 (9/2021 Kenny Chang) Directed Research/Independent Study

Brown University Course: BIOL 1960 /S96 (2014) Independent Study

Brown University Course: BIOL 1950/1960/0960 (2014) Independent Study

Brown University Course: BIOLOGY 1960 (2013) the independent study

Brown University Course: BIOLOGY 1950 (2007 Fall)

UNIVERSITY Ph.D. Qualifying Exam Committee Member

Biomedical Engineering PhD final defense Committee Member 6-2-2017 for Lei Zhang. Thesis title: Molecular diagnostics using biosynthetic engineering and microfluidic designs

Biomedical Engineering PhD final defense Committee Member 5-12-2017 for Lei Zhang

Biomedical Engineering PhD Qualifying Committee Member 3-12-2015 for Lei Zhang

Brown Medical School, UG, and Grad students

2022: Fazeli, Patrick, Biotechnology Sc.M. Incidence of pre-existed cartilage damage in Yucatan minipig and its countermeasures

2022: Patrick Fazeli, Biotechnology

2022: Elias N Schwartz, 2019-2023 Brown UG Student Biology. Osteoarthritis in the joint environment will affect the ACL in both structure and function.

2021: Elias N Schwartz 2019-2023 Brown UG Student Biology. A2M prevents PTOA.

2020-2021: Kenny Chang 2018-2022 Brown UG Student. Analysis potential target genes related to aging cartilage damage.

2020 LuLu Can Cao 2023 Brown Medical Student. Study the mechanism how A2M prevents cartilage damage in vitro.

2020 Eunsung Choi, Brown Master student in Biomed: Biotechnology

2019 LuLu Can Cao 2023 Brown Medical Student. Study gait analysis in pig idealized ACLR model.

2017-2018 Byung Jin (Richard) Han 2018 (UG). Cutting, Paraffin staining, and analyzing OA cartilage samples for immunohistochemistry. In addition to his bench work, Richard went above and beyond to shadow doctors performing intra-articular A2M injections.

2015-2017 Nathan P. Thomas Brown University '14 MD '18 Bio1960, the independent study.

Research Title: Synovial inflammation plays a greater role in post-traumatic osteoarthritis compared to idiopathic osteoarthritis in the Hartley Guinea Pig knee

2014 Nathan P. Thomas Brown University '14 MD '18 Bio1960, the independent study.

Research Title: AMD3100 prevents surgery-induced OA

2013 Nathan P. Thomas Brown University '14 MD '18 Bio1960, the independent study.

Research Title: AMD3100 prevents surgery-induced OA

2012 Nathan P. Thomas Brown University '14 MD '18 Research Title: HDAC4 regulates chondrocyte proliferation

2011 Lindsay Wong, Brown University, a sophomore biology student. Half life of A2M protein *in vivo*

2010 Wesley Wu – Continuing The Pathology Process of the Post-Traumatic OA Model is Different from the Naturally Developed OA Model in Guinea Pigs

2009 Woody Fazzano, Gettysburg University. MicroRNA Expression Profile in OA Cartilage

2009 Wesley Wu - The Pathology Process of the Post-Traumatic OA Model is Different from the Naturally Developed OA Model in Guinea Pigs

2008 Wesley Wu – Compared the Primary and the Post-Traumatic OA Model in Guinea Pigs

2007 Wesley Wu - Apoptosis in Articular Cartilage of ACL reconstruction Goat Joint at high and Low Tension

Brown Undergraduate Honors Thesis and summer study

2016 Richard Byung Jin Han. Brown sophomore concentrating in Biology student and conducts independent research during the Spring semester of Junior year (A2M and OA).

3-2014 **David Hernandez.** Brown sophomore concentrating in Biology student and conducts independent research during the fall semester of my Junior year (A2M and LNP half time studies in vivo).

2013 Bryan Rego, Brown the fifth year student in Biology for summer study.

2012 Nathan P. Thomas Brown University '14 MD '18 Research Title: HDAC4 regulates chondrocyte proliferation

2013 Lei Zhang, Brown biomedical engineering student: 3D tissue engineer cartilage

2012 Lei Zhang, Brown biomedical engineering student: 3D tissue engineer cartilage

2012 Courtney Mazur, Brown biomedical engineering student: Helical rosette nanotubes for cartilage regeneration

2006 Carol Lim (Honor Thesis: Stimulation of Chondrocyte Hypertrophic Phenotype by Stromal Cell Derived Factor-1/CXC Chemokine Receptor 4 Pathway Involving A Transcription Factor Runx2).

Brown student research

2011-6/2012 Louise Lee (Project title: Regulation of HDAC4 Relocation). Boston University.

2011 Nathan P. Thomas Brown University '14 MD '18 Research Title: Blocking CXCR4/SDF-1 prevents surgery induced OA

2009 Wesley Wu (Project title: The Pathology Process of the Post-Traumatic OA Model is Different from the Naturally Developed OA Model in Guinea Pigs).

2008 Wesley Wu (Project title: The Pathology Process of the Post-Traumatic OA Model is Different from the Naturally Developed OA Model in Guinea Pigs).

2007 Wesley Wu (Project title: The Pathology Process of the Post-Traumatic OA Model is Different from the Naturally Developed OA Model in Guinea Pigs).

Wesley Wu. Angiogenesis is involved in stromal cell-derived factor-1 induced rabbit growth plate closure. Present at Orthopaedic Student research day in RIH May 7, 2008

Lee, Joseph (Medical Student: SDF-1 regulates OA cartilage degradation).

Taner Anil (Medical Student: Apoptosis in Rabbit Growth Plate treated by SDF-1).