

CURRICULUM VITAE

LEI WEI

Associate Professor
Warren Alpert Medical School of Brown University/Rhode Island Hospital
Department of Orthopaedics
Division of Orthopaedic Research
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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 Eudem degree 5/26/2013 from Brown University, Providence, RI. USA

POSTGRADUATE TRAINING:

09/1983-08/1988: Residency, Dept. of Orthopedics, Affiliated Hospital of Guiyang Medical College, China
06/1999-08/03: Postdoc. Fellowship, Departments of Orthopaedics & Rehabilitation, and Cellular & Molecular Physiology, The Pennsylvania State University College of Medicine Hershey, PA.

POSTGRADUATE HONORS AND AWARDS:

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 ad Eudem degree 5/26/2013 from Brown University, Providence, RI USA

2015-2017: Honorary Professor in Orthopedic research lab of Shanxi medical university
SDF-1/CXCR4 has a critical role during growth pale 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.

ACADEMIC 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.

07/01/11-2026: Associate Professor and director for Cartilage development and degeneration, Dept. of Orthopedics, Brown Medical School/Rhode Island Hospital.

07/01/11-6/30/2017: Associate Program Director of imaging and molecular biology core / center for biomedical research excellence in skeletal health and repair

01/01/11-12/31/2017: Honorary professor/Shanxi Medical University.

07/01/11-present: Director of growth plate development and cartilage degeneration laboratory of Orthopedic research

07/01/17-present: Director of imaging and molecular biology core / center for biomedical research excellence in skeletal health and repair



MICHELE G. CYR, MD, MACP
SENIOR ASSOCIATE DEAN FOR ACADEMIC AFFAIRS
PROFESSOR OF MEDICINE
PROFESSOR OF MEDICAL SCIENCE

April 29, 2021

Lei Wei, MD, PhD
Department of Orthopaedics
Rhode Island Hospital
Box G-RIH

Dear Dr. Wei:

I am pleased to advise you that on the recommendation of the Department of Orthopaedics of Brown University, you have been reappointed to the faculty as Associate Professor of Orthopaedics (Research) effective July 1, 2021 through June 30, 2026.

All full-time, hospital-based faculty must comply with the Conflict of Interest policies of their employers and/or grantee institutions. If a hospital-based faculty member submits a sponsored project through the University, he or she must comply with the University's transactional conflict of interest assurance and reporting processes and management policies as appropriate.

Your faculty reappointment is contingent upon your continuing relationship with your employer and satisfactory completion of assigned responsibilities. Your responsibilities and compensation are defined by the terms of your arrangement with your employer. Brown University is committed to supporting the academic programs and scholarly enrichment activities in its affiliated institutions. We appreciate the service you provide to our students and the medical school and we look forward to your contribution to the academic mission at Brown University.

If at any time during the term of your faculty appointment, your contribution to the Department changes and/or the programmatic needs of the Department change, the Department may review the continuation of your faculty appointment. If this letter does not correctly express the terms of your reappointment or is not satisfactory to you, please contact us the BioMed Faculty Administration at BMFA@brown.edu.
Sincerely,

Michele G. Cyr, MD, MACP

cc: Department
BioMed Faculty Administration
Hospital Administration

OTHER APPOINTMENTS AND PUBLIC SERVICE

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

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 HISTOLOGY AND HISTOPATHOLOGY 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 Annals of Agricultural and Environmental Medicine 2015
Canadian Journal of Physiology and Pharmacology 5/2016

Journal Reviewer for Acta Biochimica et Biophysica Sinica (ABBS) 8/2016
Journal Reviewer for Oncotarget 8/2016
Journal Reviewer for Medical Science Monitor 11/2016
Journal Reviewer for Sports Medicine
Journal Reviewer for Journal of Cellular Physiology
Journal Reviewer for Journal of Orthopaedic Translation
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 Advanced Science 1-2020
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
Journal Reviewer for Nature Communications 6-16-2022
Journal Reviewer for Nature Biomedical Engineering since 5-24-2023

Editorial Board

Editorial Board Member of Rheumatology Since 2011(Executive Editor)
Editorial Board Member of Arthritis Since 2011
Editorial Board of International Journal of Orthopaedics Since 2014
Editorial Board of the Foot and Ankle Surgery Electronic Magazine 2014
Editorial Board Invitation for Clinical Journal of Orthopedics and Rheumatology 2014
Editorial Board Invitation for Case Reports: Open Access 2014
Lead Guest Editor for Surgery Research and Practice 2014
Supervising editors for Aging Cell 2014
Editorial Board for Clinical Medical Reviews and Case reports 2014
Electronic Journal of Foot and Ankle Surgery 2014
Eminent Editor for the Journal of Orthopedics & Rheumatology 2015
Invited to be editor for Frontiers in Surgery 2015
Invited to be editor for Austin Arthritis 2015
Invited to be editor for Journal Osteoarthritis 2015
Invited to be editorial board of journal for The Scientific Pages of Sports Medicine 4/2016
Invited to be editorial board of journal for Austin Sports Medicine 11/2016
Invited to be editorial board member of The Scientific Pages of Orthopedic Surgery 11/2016.
Invited to be editorial board member of The Scientific Pages of Musculoskeletal Surgery 1/2017.
Invited to be editorial board member of Journal of Orthopedic Clinical Studies and Advanced Research 1/2017
Invited to be editorial board member of The Scientific Pages of Bioavailability and Bioequivalence, 2/2017
Invited to be as an Honorable Associate Editor of Medical Journal of Clinical Trials & Case Studies, 2/2017
Invited to be as an Editor of Acta Biomaterialia 3/2017

Invited to be Editorial Board/Reviewer Board of International Archives of Internal Medicine. 6/2017

Invited to be Editorial Board of Clinical and Experimental Orthopedics 8/6/2017

Invited to be Editorial Board of International Journal of Clinical Rheumatology 8/9/2019

Invited to be Journal of Orthopaedic Translation 9/7/2018

Invited to be Editorial Board Member for Journal of Cancer Biology (JCB) 8/ 2019

Invited to be Editorial Manager for Molecular Medicine 11/2019

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.

NSFC since 2011 to present: Peer review for NSFC grants.

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 (P2RMIS) panel

Grant review for Health and Medical Research Fund from The Government of the Hong Kong Special Administrative Region (HKSAR) 09202086: Project Title: Leveraging skeletal progenitor cells for treating bone mass disorders

Journal club series:

Orthopedics journal club series since June, 2013-2014

Orthopedics journal club series since June, 2018-2019

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

Other Committee member

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

MEMBERSHIP IN SOCIETIES

1999-current: U.S. Orthopaedic 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

GRANTS

DoD W81XWH1910516 (Lei Wei PI), 08/15/2019-9/30/2024. \$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.

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

9/30/2022- 9/29/2023. Total: \$441,150.30

National Institute on Drug Abuse, 5N95022C00029

Developing A Novel Non-viral Nanopieces Gene Delivery System for AD Gene

The major goal of this study is to develop Nanopieces, a Platform RNAi Delivery Technology for Treatment of AD Diseases

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

3/1/2020- 2/28/2023. Total: \$114,906

Developing Nanopieces, a Platform RNAi Delivery Technology for Treatment of Multiple Diseases

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

NIH/ the National Institute of General Medical Science, 5P30-GM122732-05, 09/15/2007-07/31/2023.

Role: Director of imaging and molecular biology core / center for biomedical research excellence in skeletal health and repair.

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

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

Lei Wei PI

Pending

Grant history

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.

Direct cost: \$202,500 x 5=\$1,012,500

Indirect cost: 108,401 x 5=\$542,005

Total cost: \$1,554,505 (Under renewal)

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, Chemokin 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.

STTR grant NanoDe (Subcontract) supported by NanoDe Therapeutics, Inc.
3/1/2020- 2/28/2023. Total: \$184,999

Developing Nanopieces, a Platform RNAi Delivery Technology for Treatment of Multiple Diseases

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

COBRE for Skeletal Health & Repair: Phase III - Pilot Project 1. 5P30GM122732-02 1/1/2019-8/31/2021. Total: \$100,000.

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

Patent

PUBLICATIONS LIST

ORIGINAL PUBLICATIONS IN PEER-REVIEWED JOURNALS

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.
18. 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.
19. 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.
20. 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.
21. 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.
22. Edin de Bri, Wei, Lei, Olle Svesson, 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.
23. 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.
24. Wei, L., Lundberg, A., and Svensson, O. Mechanical Load and Primary Guinea Pig Osteoarthritis. Acta Scandinavica Orthopaedica. 1998; 69 (4): 351-357.
25. 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.
26. 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.

27. 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.
28. 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.
29. 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.
30. 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. *Acta Scandinavica Orthopadica*. 2003; 74(1): 16-21.
31. Brismar BH, Wei L, Hjerpe A, Svensson O. The effect of body mass and physical activity on the development of guinea pig osteoarthritis. *Acta Orthop Scand*. 2003; 74(4): 442-8.
32. 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.
33. 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.
34. 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]
35. 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
36. 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.
37. 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.
38. 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.
39. 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.
40. 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.

41. 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.
42. 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.
43. 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
44. 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.
45. 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)
46. 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.
47. 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.
48. 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
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Abstract (After 1997)

1. *Changqi Sun; Kenny Chang; Braden C. Fleming; Brett D. Owens; Jillian E. Beveridge; Lei Wei. A2m Attenuates Cartilage Degeneration By Binding To And Blocking The Il-1r1 Cascade In A Large Preclinical Pig Model. ORS 2024 Long Beach, CA. Feb 3-6, 2024*
2. *Kenny Chang; Changqi Sun; Fei Zhang; Guoxuan Peng; Lei Wei. A₂-Macroglobulin Reduces ACL Degeneration In A Posttraumatic Osteoarthritis Environment In The Yucatan Minipig. ORS 2024 Long Beach, CA. Feb 3-6, 2024*
3. *Guoxuan Peng; Hongcheng Peng; Min Zhang; Jian Sun; Mingzhi Huang; Xu Ning; Xianwen Shang; Jin Deng; Lei Wei. Targeting Ihh Repairs Growth Plate Injury Via*

- Cxcl12-mediated The Coupling Of Angiogenesis And Bone Bridge Formation. ORS 2024 Long Beach, CA. Feb 3-6, 2024. NIRA Finalist and Podium*
4. *Fei Zhang; Tao Wang; Lei Wei; Wuxun Peng. BLK Cross-linked Redox And Apoptosis Signaling Networks Promote The Survival Of Transplanted BMSCs. ORS 2024 Long Beach, CA. Feb 3-6, 2024*
 5. *Guoxuan Peng; Anyi Lei; Hongcheng Peng; Yuan Lin; Hong Sun; Yong Zhuang; Hao Zhang; Xu Ning; Victory Zheng; Lei Wei; Xianwen Shang; Mingzhi Huang. Annulus Fibrosus Cellular Senescence In Intervertebral Disc Degeneration Is Associated With Biomechanics Of Annulus Fibrosus. ORS 2024 Long Beach, CA. Feb 3-6, 2024*
 6. *Lei Wei A2M attenuates PTOA in a large preclinical pig model. 4th International Conference on Orthopedics. Invited speaker. Rome Italy, dec 14-15, 2023*
 7. *Elias Schwartz. Brown Biological Sciences Honors Thesis. May 2023*
 8. *Kenny Chang; Changqi Sun; Braden Fleming; Brett D. Owens; Jillian Beveridge; Scott McAllister; Meggin Costa; Megan Pinette; Janine Molino; Lei Wei. A2M attenuates Post-traumatic Osteoarthritis in Yucatan pigs. 2023 RI IDeA Symposium: Emerging Areas of Science. June 1st, 2023*
 9. *Changqi Sun; Kenny Chang; Braden Fleming; Brett Owens; Rachel Bruns; Jillian Beveridge; Scott Mcallister; Meggin Costa; Megan Pinette; Xiao Ying; Lei Wei. A2m Reduces Synovial Inflammation In A Yucatan Mini-pig PTOA Model. ORS 2023 Dallas TX. Feb 10-14, 2023 Podium*
 10. *Kenny Chang; Changqi Sun; Braden Fleming; Brett D. Owens; Jillian Beveridge; Scott McAllister; Meggin Costa; Megan Pinette; Janine Molino; Lei Wei. A₂-Macroglobulin Reduces Post-traumatic Osteoarthritis Cartilage Degeneration By Inhibiting Catabolic Pathways. ORS 2023 Dallas TX. Feb 10-14, 2023 Podium*
 11. *Li Yue; Neehar Desai; Matthew Mu; Lei Wei; Brett D. Owens. Relaxin-2 Receptor Expression Increased In Anterior Cruciate Ligament Of Swine PTOA Model. ORS 2023 Dallas TX. Feb 10-14, 2023 Podium*
 12. *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*
 13. *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*
 14. *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.*
 15. *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.*
 16. *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.
17. 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.
 18. 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.
 19. 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.
 20. 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.
 21. 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
 22. 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
 23. 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
 24. 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.
 25. Shaowei Wang; Mengbo Zhu; Yaqiong Chang; Guoqing Du; Pengcui Li; Bin Zhao; Lei Wei. Podium presentation. Hyaluronic Acid versus Alpha-2-Macroglobulin Intra-Arcular Injections for Amelioration of Knee Osteoarthritis: A Rat Model. ORS 2019 Annual Meeting, Feb 2-5 in Austin, TX.
 26. 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
 27. 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
 28. 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

29. 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
30. 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.
31. 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.
32. 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.
33. 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.
34. 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.
35. 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.
36. 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 Act Rat Oa Model.* ORS 2017 Annual Meeting, March 19-22 in San Diego, California.
37. 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.
38. 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.
39. 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
40. Yang Zhang, Lei Wei, Guoqing Du, Shaowei Wang, Shawn Browning, Lewis Hanna. *A2m And Targeted Designed Variants Inhibit Catabolic Proteases In An Act 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
41. 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*
42. 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
 43. Lei Wei. Ihh is a potential target for OA treatment. International Symposium of Musculoskeletal Regeneration Research Network. Stockholm, Sweden. June 1-2, 2015.
 44. 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
 45. 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
 46. 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
 47. 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
 48. 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.
 49. 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.
 50. 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.
 51. 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.

52. 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)
53. 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 Philodophia. PA USA.
54. 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.
55. 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.
56. 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.
57. 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.
58. 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
59. 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.
60. 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.
61. 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.
62. 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
63. 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.

64. 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 8-10-2011 to 8-12-11.
65. Richard Terek, Xiaojuan Sun, Lei Wei. CXCR4 targeted therapy for chondrosarcoma. 4th Northeast Regional IDeA Meeting. Salve Regina University, Newport, RI USA 8-10-2011 to 8-12-11.
66. 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
67. 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
68. 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
69. 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.
70. 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.
71. 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 fluid 9th World Congress of the International Cartilage Repair Society. Sept. 26 - 29, 2010, Sitges / Barcelona, Spain
72. 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
73. 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
74. 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
75. 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

76. 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).
77. 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
78. 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
79. 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
80. 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
81. Wei, Lei. Relocation of HDAC4 regulates growth plate chondrocyte differentiation. Keynote speaker, Rhode Island Research Alliance Symposium, June 3, 2008. Providence, RI.
82. 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
83. 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
84. 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
85. 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
86. 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
87. 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
88. Luo, J; Zhang, Y; Wang, Z; Lei Wei; Chen, Q. FUNCTIONAL DIFFERENCES UNDERLYING MATRILIN-3 MUTATIONS IN SPONDYLO-EPI-METAPHYSEAL DYSPLASIA AND IN HAND OSTEOARTHTRITIS. 52th Orthopaedic Research Society Annual Meeting, March 19-22, 2006, in Chicago, Illinois

89. 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
90. 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
91. 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
92. 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
93. 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
94. 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
95. 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
96. 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
97. 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
98. 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
99. 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.
100. 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.
 101. 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.
 102. 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.
 103. 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.
 104. 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.
 105. 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.
 106. 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. SIROT 2000 CHINA and CSOS 2000 CHINA, May 5-10, 2000, Shanghai-Beijing, China.
 107. 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.
 108. Wei, L., Hjerpe A., Svensson O. Distribution of Proteoglycans in Primary Guinea Pig Osteoarthrosis. 9th Conference of the European Orthopaedic Research Society Combined with the 4th EFFORT Meeting, in Brussels, June 3-4, 1999.
 109. Wei, L., Svensson, O, and Hjerpe, A. Proteoglycans and collagen content in knee articular cartilage of guinea pig during development of primary osteoarthrosis. European Orthopaedic Research. 7th Annual Conference April. 22-23, 1997, Barcelona, Spain. Transaction Volume 7, Page 152.
 110. Wei, L., de Bri E., Lundberg A., Brismar H., and Svensson, O. Mechanical load and primary guinea pig osteoarthrosis. European Orthopaedic Research. 7th Annual Conference April. 22-23, 1997, Barcelona, Spain. Transaction Volume 7, Page 150.
 111. Wei, L., Svensson, O, and Hjerpe, A. Articular cartilage proteoglycans during development of primary osteoarthrosis in the guinea pig. Nordic Orthopedic Federation 48th congress, 12-15 June 1996. Bergen-Norway. Oral Presentation.
 112. Edin de Bri, Wei L., Finn P Reinholt, silva MW, Dick Heinegard, and Svensson O. Ultrastructural immunolocalization of bone sialoprotein in guinea pig osteoarthrosis.

42nd Annual Meeting, Orthopaedic Research Society, February 19-22, 1996, Atlanta, Georgia. Volume 21-Section2, page 745.

Invited Speaker and external examiner at International (National) Meeting and University Within the last two Years

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 (ICOBR2012). 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-b1 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 4nd 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.

Lei Wei et al. Alpha-2-Macroglobulin, a new promising biologic inhibitor attenuate cartilage degeneration via reducing inflammatory mediators. ICORS. Sep 2022 Edinburgh, British

Lei Wei et al. Keynote/Plenary speaker. α 2-Macroglobulin attenuates cartilage degeneration in a large PTOA pig study. 4th International Conference on Orthopedics” on December 14 to 15, 2023 in Rome, Italy.

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)

External examiner for Shanxi Medical University PhD. Thesis since 2010 to present:

Pengcui Li, Thesis title: microRNA-1 regulates chondrocyte proliferation, 2013.

Qian Jiao, Thesis title: Cartilage oligomeric matrix protein and hyaluronic acid are sensitive serum biomarkers for early cartilage lesions in the knee joint

Xiaohu Wang, Thesis title: Proximal fibular osteotomy: a new surgery for pain relief and improvement of joint function in patients with knee osteoarthritis. 2015

Chongwei Chen, Thesis title: Compression regulates gene expression of chondrocytes through HDAC4 nuclear relocation via PP2A-dependent HDAC4 dephosphorylation. 2016

Yang Zhang, Thesis title: Engineering A2M attenuates PTOA. 2017

UNIVERSITY TEACHING ROLES

Brown University Course: BIOL 1950 (2021) 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. and Master Qualifying Exam Committee Member

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

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

Brown Medical school 2026 (Kenny Chang PTOA study)

Brown University Honors Advisor Spring 2023 Biology (Elias Schwartz)

Biology and public health as part of Brown's 8-year Program in Liberal Medical Education (Juliet Fang) 3-2023. Studying calcified cartilage in pig PTOA model.

Brown Biomedical Engineering 2026. Bobby (Ruiyang) Zhu 3-2023. Studying OA

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 Schwartz)

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

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

2020-present: Kenny Chang 2018-2022 Brown UG Student. Independent study. 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

2023 Elias Schwartz, Brown student concentrating in Biology student and conducts independent research during the fall semester of senior year (ACL degeneration).

2016 Lizbinski, Rico. Computer science, Brown Junior.

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).

2015 Justin Kleiner. Brown sophomore concentrating in Biology student and conducts independent research during the Spring semester (Hypoxia 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*).

2014 Jared Kay. Brown fifth year masters biotechnology program

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 Masters of Science

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).

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

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-present: miR-1 transgenic mice

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

Yanlin Li M.D., Ph.D., 2008: Inhibiting SDF-1 with AMD3100 to prevent OA. From The First Affiliated Hospital of Kunming Medical College, China

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

Changqi Sun Ph.D., 2010-present, Biological Sciences Department of Biological Sciences, Japan

Jing Zhang M.D., 2010: SDF-1 induces bone marrow stem cell differentiation. From Nanshan Women and Children Hospital, Shenzhen, China

Kai Li M.D., PhD., 2010-2011 From Department of Orthopedics 2nd Hospital of Shanxi Medical Univ. Tai Yuan, 030001 P.R.China

Shaowei Wang, Ph.D candidate 2010-4/2016. A2M as a new marker for OA diagnosis. From Department of Orthopedics 2nd Hospital of Shanxi Medical Univ. Tai Yuan, 030001 P.R.China

Hongbin Li, MD., Ph.D., 04/2011-present, The role of Ihh in the mouse fracture healing

Baosheng Guo. May 1, 2012 to Dec. 30, 2012. Prince of Wales Hospital, Shatin, N.T., Hong Kong

Heng Wu. May 1, 2012 to Dec. 30, 2012. Prince of Wales Hospital, Shatin, N.T., Hong Kong

Guoqin Du, MD., Ph.D., 02/2014-09/15

Yang Zhang MD., Ph.D., 2/2015-12/2019

Min Zhang MD., Ph.D., 3/2015-3/2016

Chongwei Chen MD., Ph.D., 4/2015-4/2016

Linan Gao Ph.D., 3/2016-3/2017

Shenchun Li, M.D., 4/2016-4/2019

Jian Sun, M.D., PhD., 8/2017-7/2018

Hailing Guo, M.D., 5/2018-5/2019

Li Guo, M.D., PhD., 8/2018-8/2019

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

Yan Xue, PhD., 8/2019-12/2019 from Shanghai traditional medical university

Fei Zhang. M.D., Ph., Guizhou Medical University. 1/20/2023-1/19/2024

Guoxuan Peng. M.D., Ph.D, Guizhou Medical University. 2/28/2023-2/28/2024

Mingzhi Huang M.D., Ph.D, Guizhou Medical University. 8/1/2023-2/28/2024

Collaborative studies:

Stuart Shoemaker and Dan Dreyfuss. Director of the Equine Surgery and Sports Medicine division at Idaho Equine Hospital and an adjunct professor at Washington State University School of Veterinary Medicine.