

# **CURRICULUM VITAE**

## **1. General Personal Data, Appointments**

**Name:** Oscar Kuang-Sheng Lee

**Date of Birth:** 11 May 1968

**Nationality:** Taiwan

### **Current Position:**

Chair Professor,  
Institute of Clinical Medicine,  
National Yang-Ming University  
From 08/2016

Director,  
Stem Cell Research Center,  
National Yang-Ming University  
From 08/2007

Deputy Superintendent  
China Medical University Hospital  
Since 08/2020

### **Office Address:**

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## **2. Education**

EMBA, National Chengchi University, Taiwan (2008)

PhD, University College London, UK (2002)

MSc(Orth), University College London, UK (1999)

MD, National Yang-Ming University, Taiwan (1993)

## **3. Past Appointments**

08/2014 – 12/2018 Deputy Superintendent, Taipei City Hospital, Taiwan

08/2010 – 07/2016 Professor, Institute of Clinical Medicine, National Yang-Ming  
University, Taiwan

08/2010 – 07/2013 Deputy Dean, Office of International Affairs, National Yang-Ming  
University, Taiwan

08/2007 – 07/2010 Associate Professor, Institute of Clinical Medicine, National Yang-Ming  
University, Taiwan

- 02/2007 – 07/2007 Assistant Professor, Institute of Clinical Medicine, National Yang-Ming University, Taiwan
- 07/2005 – 07/2014 Attending Physician, Department of Orthopaedics and Traumatology, Taipei Veterans General Hospital, Taiwan
- 01/2003 – 06/2005 Chairman, Dept of Orthopaedic Surgery, Taitung Veterans Hospital, Taiwan
- 10/2002 – 12/2002 Attending Physician, Dept of Orthopaedic Surgery, Taitung Veterans Hospital, Taiwan
- 12/2001 – 10/2002 Clinical Fellow in Orthopaedic Oncology, Taipei Veterans General Hospital, Taiwan
- 10/1998 – 11/2001 Clinical Visiting Fellow, Royal National Orthopaedic Hospital, London, UK
- 06/1998 – 09/1998 Chief Resident, Department of Orthopaedics and Traumatology, Taipei Veterans General Hospital, Taiwan
- 09/1993 – 05/1998 Resident, Department of Orthopaedics and Traumatology, Taipei Veterans General Hospital, Taiwan

#### **4. Professional Qualifications, Fellowships and Elected Fellowships**

Physician Qualification, Ministry of Health and Welfare, Taiwan (1993)

Surgeon Qualification, Ministry of Health and Welfare, Taiwan (1997)

Orthopaedist Qualification, Ministry of Health and Welfare, Taiwan (1997)

#### **5. Significant External Contributions and Recognitions**

- Vice President, International Society for Cell & Gene Therapy (2019-2021)
- Associate Editor, Cytotherapy (Since 2018)
- President, Taiwan Association for Artificial Intelligence in Biomedicine (2018-2020)
- Associate Editor, Stem Cell Research and Therapy (Since 2014)
- Supervisor, Taiwan Association of Cell Therapy (Since 2014)
- Secretary-general, Taiwan Association of Integrated Care and Community Medicine (2016-2018)
- Director, Taiwan Orthopedic Trauma Association (2016-2018)
- Co-Chair, ISCT 2016 Annual meeting (2016)
- President, Taiwan Orthopedic Research Society (2014-2016)
- Director/ Executive director, Taiwan Society for Stem Cell Research (2005-2015)

#### **6. Teaching and Education**

- i. Undergraduate Teaching
  - Faculty of Medicine, National Yang-Ming University, Taiwan
- ii. Curriculum Development and Research
  - Advanced Regenerative Biology and Medicine
  - Advanced Stem Cell Biology
  - Clinical Orthopedics
  - Stem Cell Biology
- iii. Postgraduate Students Supervision and Examination

- Institute of Clinical Medicine, National Yang-Ming University, Taiwan
- Institute of Biophotonics, National Yang-Ming University, Taiwan
- Institute of Biomedical Engineering, National Yang-Ming University, Taiwan
- Institute of Hospital and Health Care administration, National Yang-Ming University, Taiwan

#### PhD Graduates:

Tom K. Kuo (2008): Treatment of fulminant liver failure by transplantation of human mesenchymal stem cells – carbon tetrachloride-induced liver injury model

Ming-Te Cheng (2009): Isolation and identification of ligament-derived stem cells from human cruciate ligaments

Vernon Y. Shih (2010): Study of mesenchymal stem cells from postnatal tissues and the effects of matrix stiffness on its osteogenic fate determination

Ting Lo (2011): Effects of glucose reduction on human mesenchymal stem cell and its phosphoproteomic changes during osteogenic differentiation

Hsiu-Yu Lai (2011): Study of immune-mechanism in graft-versus-host disease and its treatment with mesenchymal stem cells.

You-Kang Chang (2012): Mesenchymal stem cells: therapeutic effects on mouse model of spinocerebellar ataxia and the effects of superparamagnetic iron oxide nanoparticles labeling

Jei-Wen Chang (2012): Mesenchymal stem cell therapy for renal disease

Hsin-Lin Tsai (2012): Translational application in regenerative medicine: using mesenchymal stem cells for acute paraquat poisoning and donor-specific antibodies associated acute rejection in small bowel and multivisceral transplantation

Shun-Pei Hung (2012): Study on the effects of hypoxia on human mesenchymal stem cells and their interaction with tumor cells

Chih-Shiang Chen (2013): Multi-layered environmental regulation of stem cell activation and aging

Chien-Chih Ke (2013): Study of CD133-expressing thyroid cancer stem cells in I-131 therapy and tumor initiating ability modulated by mesenchymal stromal cells

Yi-Chun Kuo (2013): Development of biophotonic tools for investigating the effects of chemical and mechanical factors in mesenchymal stem cells

Wei-Cheng Jiang (2014): Tissue engineering of functional hepatic-like tissues from acellular liver scaffolds and mesenchymal stem cells

Chih-Yu Yang (2015): Wnt/ $\beta$ -catenin signaling inhibitors in the pathogenesis of uremic ectopic ossifications

Yin-Ping Lo (2016): Effects of three-dimensional spherical spatial boundary conditions on osteogenic differentiation of mesenchymal stromal cells

Wen-Ting Hsieh (2016): Effects of matrix dimensionality and stiffness on osteogenic differentiation of mesenchymal stromal cells

Po-Hsin Chou (2016): Regulation of gene expression by fluid-induced shear stress in bio-microfluidic device and modulation of proliferation with different growth factors in human annulus fibrosus cells

Marilyn G. Rimando (2017): The role of dexamethasone on the osteogenic differentiation of mesenchymal stromal cells (MSCs)

Yu-Tzu Tsao (2017): Characterization of molecular mechanism regulating bone mineralization during osteogenic differentiation of mesenchymal stem cells

Hao-Hsiang Wu (2017): Detection of Hepatic Maturation in Mesenchymal Stromal Cells Undergoing Hepatic Differentiation and Hepatocyte De-differentiation by Raman Spectroscopy

Chien-Wei Lee (2017): Modulation of reversibility by DNA methyltransferases during hepatogenic differentiation in mesenchymal stromal cells

Ko-Hsun Liao (2017): Endothelial Angiogenesis is Directed by RUNX1T1-mediated Secretome

Shu-Wen Kuo (2018): Osteogenic Differentiation of Human Mesenchymal Stem Cells is Modulated by Stereo-topographical Cues and Time-dependent Stimulation of Parathyroid Hormone

Kuo-Chang Wen (2018): The Study of Glycoscience and Tumor Metastasis in Gynecologic Cancer : from Bench to Clinic

Yi-Hung Chiang (2018): Detection of live mesenchymal stem cells and their application in the treatment of arsenite induced peripheral vasculopathy

Szu-Ying Chu (2019): Mechanical stretch induces hair regeneration through the alternative activation of macrophages

Ching-Hsuan Hu (2019): Studies on the Mechanism of Bone Marrow Concentrate-Induced Mesenchymal Stem Cell Conditioned Medium Facilitates Wound Healing and Prevents Hypertrophic Scar Formation

Yu-Fan Chen (2019): Role of Tissue Rigidity in the Differentiation of Human Pluripotent Stem Cells

Chun-Cheng Lin (2020): Pre-clinical Research Relative to Orthopaedic Trauma Surgery in the Fields of Translational Medicine and Telemedicine: Xenotransplantation of Mesenchymal Stem Cells for Fracture Healing & Development of Data Streaming System in the Hybrid Operating Room

Po-Yu Tseng (2020): Prediction of the Development of Acute Kidney Injury Following Cardiac Surgery by Machine Learning

Chieh-Szu Yang (2020): The biomechanical study of opposite cortical screw in High tibial osteotomy

#### Master Graduates:

Tina C. Cheng (2011): Characterization of mesenchymal stem cells undergoing hepatogenic differentiation using Raman spectroscopy

Pei-Ju Liu (2011): Exploring the roles of microRNA-502 in hepatogenic differentiation of mesenchymal stem cells

Chia-Yu Hou (2012): The role of miR-101 during hepatogenic differentiation of human mesenchymal stromal cells

Pei-San Hung (2012): Real-time detection of osteogenic maturation in mesenchymal stromal cells by Raman spectroscopy

Nan-Yuan Teng (2012): Effects of Rac1 inhibition on hepatic differentiation of mesenchymal stromal cells

Yu-Han Chen (2013): Measurement of Young's modulus alteration during osteogenic differentiation in human mesenchymal stem cells by atomic force microscopy

Yen-Ting Kuan (2013): Rapid generation of mature hepatocyte-like cells from human induced pluripotent stem cells by a microfluidic device

Yuan-Yi Wu (2013): Rapid generation of mature hepatocyte-like cells from mesenchymal stem cells by a bio-microfluidic device

Ya-Yi Shih (2014): Effects of magnesium on osteogenic differentiation of mesenchymal stem cells

Yu-Wen Sun (2014): Study on the combined transplantation of mesenchymal stem cell and liver sinusoidal endothelial cell to promote liver regeneration

Wei-Ting Hsiao (2014): Mesenchymal stem cell-based therapy for non-alcoholic fatty liver disease: a preclinical study

Tsung-Yu Lin (2014): Rapid generation of hepatocyte-like cells from mesenchymal stromal cells by a fluid shear stress

Yi-Jeng Huang (2015): Elucidation of molecular mechanisms of differential mineralized matrix production during osteogenic maturation in human mesenchymal stromal cells

Yi-Chen Su (2015): Establishment of disease-specific human induced pluripotent stem cells

Ting-Yao Shen (2016): Real-time detection of benzoylecgonine by using the portable surface plasmon resonance system

Chia-Peng Liu (2016): Evaluation of neuroprotection effects from mesenchymal stem cells for the treatment of spinocerebellar ataxia

Yi Hsia (2016): Pre-clinical evaluation of therapeutic efficacy of human mesenchymal stromal cells on amyotrophic lateral Sclerosis

Qiao-Ling Chou (2016): Extraction of *Ginkgo biloba* leaf promotes osteogenic differentiation of mesenchymal stromal cells

Lih-Ying Shin (2018): Effects of Dexamethasone on Osteocyte Formation of Mesenchymal Stromal Cells

Sheng-Fa Hsu (2018): Study on the Management Strategies of Orthopaedic Device Company – Case Analysis on a Taiwanese Company

Yu-Ting Juan (2019): Technology transfer model and investment management for spinning off startup companies: a biotechnology company case study

Tai-Chun Chen (2020): Effects of Fibroblast Growth Factor 23 on the Engulfment of Calcium Phosphate Crystals by Macrophages in Chronic Kidney Disease

Shu-Yu Shen (2020): Effects of Mesenchymal Stromal Cells on Regulatory T Cells in Chronic Kidney Diseases

Wan-En Liao (2021): Effects of Mesenchymal Stem Cells on Macrophage Efferocytosis in Systemic Lupus Erythematosus

iv. Clinical and Research Fellows education and training

- Taipei City Hospital, Taiwan
- Taipei Veterans General Hospital

Clinical Fellows:

Dr. Jung-Jen Lin (2008-2009)

Dr. Tsung-His Huang (2009-2010)  
Dr. Chin-Jung Lin (2010-2011),  
Dr. Hung-Yuan Chiang (2014-2015)  
Dr. Cho-Liang Sung (2015-2016)

Research Fellows:

Dr. Alvin Wei-Yee Su (2011-2012)  
Dr. Li-Hung Fan (2012)  
Dr. Yen-Weng Cheng (2012-2013)

## **7. Research and Scholarship**

### **i. Scientific Awards**

FutureTech Breakthrough Award, Ministry of Science and Technology, Taiwan, 2019  
The Hsin Ling Award, New Taipei City Medical Association, 2017  
Outstanding Alumni Award: Academic Achievement, National Yang-Ming University, 2017  
Pride of the Nation Academic Award for Outstanding International Achievement, 2015  
Outstanding Research Award, Ministry of Science and Technology, Taiwan, 2014  
Best Research Award, Taipei Veterans General Hospital, 2013  
Academic Excellence Award, National Yang-Ming University, 2009 - 2016  
Best Research Award, Taipei Veterans General Hospital, 2009  
Great Academic Achievement Award at the 50th Anniversary of Taipei Veterans General Hospital, 2009  
Academia Sinica Research Award for Junior Research Investigators, Life Science Award, 2009  
Outstanding Research Award, National Science Council, Taiwan, 2008  
The Outstanding Young Persons of Taiwan, Medical Research Award, 2008  
Taipei Veterans General Hospital Citation Classic Award, 2008  
Taiwan Who's who in 2008  
International Who's Who 2006-2007  
Wu Ta-Yu Memorial Award, National Science Council, Taiwan, 2006  
Best Research Award, Taipei Veterans General Hospital, 2005  
New Investigator Recognition Award, 50<sup>th</sup> Annual Meeting of Orthopaedic Research Society, March 4-7, 2004, San Francisco, CA, USA  
Best Paper Award, Annual Meeting of Taiwan Orthopaedic Association, 2003  
Best Paper Award, Annual Meeting of Taiwan Orthopaedic Association, 2002  
Overseas Research Student Award, Community of Vice Chancellors and Principals, UK (10/1999 – 09/2001)  
Government Scholarship for Studying Abroad, Department of Education, Taiwan (04/1999 – 11/2001)

ii. Summary of H-index, Citations

Citation: 9748, h-index: 42 and i10-index: 101. (Google Scholar, October 2020)

iii. Scientific Publications – Papers

1. Ting WK , Arthur Chiou , Keng L , Yi-Shiuan Liu , **Lee OK\***. Alteration of 3D Matrix Stiffness Regulates Viscoelasticity of Human Mesenchymal Stem Cells. Feb. 2021. *Int. J. Mol. Sci.*22(5):2441 (IF=4.556; BIOCHEMISTRY&MOLECULAR BIOLOGY:74/297)
2. Wan Z, Shin LY, Wang YF, Huang Z, Dong Y, Lee CW, SM Kumta, **Lee OK\*** Role of skeletal macrophages in fracture repair: A systematic review. Dec. 2020. *Biomed Rep* 13(6):53.
3. Yang JC-S, Lobenhoffer P, Chang CM, Chen CF, Lin HC, Ma HH, Lee PY, **Lee OK\***. A supplemental screw enhances the biomechanical stability in medial open-wedge high tibial osteotomy. Dec. 2020. *PLoS ONE* 15(12): e0244557. (IF=2.740; MULTIDISCIPLINARY SCIENCES: 27/71)
4. Xu H, Lee CW, Wang YF, Huang S, Shin LY, Wang YH, Wan Z, Zhu X, Yung PS, **Lee OK\***. The Role of Paracrine Regulation of Mesenchymal Stem Cells in the Crosstalk with Macrophages in Musculoskeletal Diseases: A Systematic Review. Nov. 2020. *Front Bioeng Biotechnol* 8:587052. (IF=3.644; MULTIDISCIPLINARY SCIENCES: 23/82)
5. Wan Z, Lee CW, Yuan S, **Lee OK\***. Can p63 serve as a biomarker for diagnosing giant cell tumor of bone? A systematic review and meta-analysis. Sep. 2020. *Sao Paulo Med J* 138(5):393-399. (IF=1.044; MEDICINE, GENERAL & INTERNAL: 117/165)
6. Tseng PY, Chen YT, Wang CH, Chiu KM, Peng YS, Hsu SP, Chen KL, Yang CY, **Lee OK\***. Jul. 2020. Prediction of the development of acute kidney injury following cardiac surgery by machine learning. *Crit Care* 24(1):478. (IF=6.407; CRITICAL CARE MEDICINE: 6/36)
7. Yang CY, Li MC, Lan CW, Lee WJ, Lee CJ, Wu CH, Tang JM, Niu YY, Lin YP, Shiu YT, Cheung AK, Lee YW, **Lee OK**, Chien S, Tarng DC. Jul. 2020. The Anastomotic Angle of Hemodialysis Arteriovenous Fistula Is Associated With Flow Disturbance at the Venous Stenosis Location on Angiography. *Front Bioeng Biotechnol* 8:846. (IF=3.644; MULTIDISCIPLINARY SCIENCES: 23/82)
8. Chen YP, Lin CY, Tsai MJ, Chuang TY, **Lee OK\***. Jun. 2020. Wearable motion sensor device to facilitate rehabilitation program in patients with shoulder adhesive capsulitis: a pilot study to assess feasibility. *J Med Internet Res* 22(7):e17032. (IF=5.034; MEDICAL INFORMATICS: 2/27)
9. Chen YW, Chi LY, **Lee OK\***. Jun. 2020. Associations between Aging and Second Molar Diseases in Patients Having Adjacent Impacted Third Molar Extraction. *J Formos Med Assoc* 120(1 Pt 2):380-387. (IF=3.008; MEDICINE, GENERAL & INTERNAL: 42/165)
10. Zhu M, Chu Y, Shang Q, Zheng Z, Li Y, Cao L, Chen Y, Cao J, **Lee OK**, Wang Y, Melino G, Lv G, Shao C, Shi Y. Jun. 2020. Mesenchymal Stromal Cells Pretreated With Pro-Inflammatory Cytokines Promote Skin Wound Healing Through VEGFC-mediated Angiogenesis. *Stem Cells Transl Med* 9(10):1218-1232. (IF=6.429; CELL & TISSUE ENGINEERING: 4/29)
11. Lin CC, Chen YP, Chiang CC, Chang MC, **Lee OK\***. Apr. 2020. Real-Time Streaming of Surgery Performance and Intraoperative Imaging Data in the Hybrid

- Operating Room: Development and Usability Study. *JMIR Med Inf* 8(4):e18094. (IF=2.577; MEDICAL INFORMATICS: 13/27)
12. Yen MH, Chen YH, Liu YS, **Lee OK\***. Apr. 2020. Alteration of Young's modulus in mesenchymal stromal cells during osteogenesis measured by atomic force microscopy. *Biochem Biophys Res Commun* 526(3):827-832. (IF=2.985; BIOPHYSICS: 26/71)
  13. Xu HT, Lee CW, Li MY, Wang YF, Yung PSH, **Lee OK\***. Mar. 2020. The shift in macrophages polarisation after tendon injury: A systematic review. *Orthop Transl* 21:24-34. (IF=3.986; ORTHOPEDICS: 8/82)
  14. Wu BS, Yang CY\*, **Lee OK**. Mar. 2020. Cardiac Silhouette. *Am J Med Sci* 360(1):75-76. (IF=1.911; MEDICINE, GENERAL & INTERNAL: 76/165) (Case Reports)
  15. Hu CH, Tseng YW, Lee CW, Chiou CY, Chuang SS, Yang JY, **Lee OK\***. Mar. 2020. Combination of mesenchymal stem cell-conditioned medium and botulinum toxin type A for treating human hypertrophic scars. *J Plast Reconstr Aesthet Surg* 73(3):516-527. (IF=2.390; SURGERY: 72/210)
  16. Lau CPY, Fung CSH, Wong KC, Wang YH, Huang L, Tsui SKW, **Lee OK\***, Kumta SM\*. Feb. 2020. Simvastatin possesses antitumor and differentiation-promoting properties that affect stromal cells in giant cell tumor of bone. *J Orthop Res* 38(2):297-310. (IF=2.728; ORTHOPEDICS: 23/82)
  17. Chen YF, Liu YS, Chou CH, Chiew MY, Huang HD, Ho JH\*, Chien S\*, **Lee OK\***. Feb. 2020. Control of matrix stiffness promotes endodermal lineage specification by regulation SMAD2/3 via lncRNA LINC00458. *Sci Adv* 6(6):eaay0264. (IF=13.116; MULTIDISCIPLINARY SCIENCES: 4/71)
  18. Yang JCS, Chen CF, **Lee OK\***. Jan. 2020. Benefits of opposite screw insertion technique in medial open-wedge high tibial osteotomy: A virtual biomechanical study. *J Orthop Translat* 20:31-36. (IF=3.986; ORTHOPEDICS: 8/82)
  19. Lin CC, Lin SC, Chiang CC, Chang MC, **Lee OK\***. Nov. 2019. Reconstruction of bone defect combined with massive loss of periosteum using injectable human mesenchymal stem cells in biocompatible ceramic scaffolds in a porcine animal model. *Stem Cells Int* 2019:6832952. (IF=3.869; CELL & TISSUE ENGINEERING: 13/29)
  20. Lin NC, Wu HH, Ho JH\*, Liu CS\*, **Lee OK\***. Nov. 2019. Mesenchymal Stem Cells Prolong Survival and Prevent Lethal Complications in a Porcine Model of Fulminant Liver Failure. *Xenotransplantation* 26(6):e12542. (IF=3.484; TRANSPLANTATION: 9/25)
  21. Hu CH, Tseng YW, Chiou CY, Lan KC, Chou CH, Tai CS, Huang HD, Hu CW, Liao KH, Chuang SS, Yang JY and **Lee OK\***. Aug. 2019. Bone marrow concentrate-induced mesenchymal stem cell conditioned medium facilitates wound healing and prevents hypertrophic scar formation in a rabbit ear model. *Stem Cell Res Ther* 10(1):275. (IF=5.116; MEDICINE, RESEARCH & EXPERIMENTAL: 26/138)
  22. Chu SY, Chou CH, Huang HD, Yen MH, Hong HC, Chao PH, Wang YH, Chen PY, Nian SX, Chen YR, Liou LY, Liu YC, Chen HM, Lin FM, Chang YT, Chen CC\* & **Lee OK\***. Apr. 2019. Mechanical stretch induces hair regeneration through the alternative activation of macrophages. *Nat Commun* 10(1):1524. (IF=12.121; MULTIDISCIPLINARY SCIENCES: 6/71)
  23. Chen WT, Hsu WT, Yen MH, Changou CA, Han CL, Chen YJ, Cheng JY, Chang TH, **Lee OK\***, Ho JH. Jan. 2019. Alteration of mesenchymal stem cells polarity by laminar shear stimulation promoting  $\beta$ -catenin nuclear localization. *Biomaterials* 190-191: 1-10. (IF=10.317; MATERIALS SCIENCE, BIOMATERIALS: 1/38)



24. Jeng YT, Lin SY, Hu HY, **Lee OK**, Kuo LL\*. Nov. 2018. Osteoporosis and dry eye syndrome: A previously unappreciated association that may alert active prevention of fall. *PLoS ONE* 13(11):e0207008. (IF=2.740; MULTIDISCIPLINARY SCIENCES: 27/71)
25. Lin HI, Kuo SW, Yen TJ\*, **Lee OK\***. Aug. 2018. SiNWs Biophysically Regulate the Fates of Human Mesenchymal Stem Cells. *Sci Rep* 8(1):12913. (IF=3.998, MULTIDISCIPLINARY SCIENCES: 17/71)
26. Yang JC, Chen CF, Luo CA, Chang MC, **Lee OK**, Huang Y, Lin SC. May 2018. Clinical Experience Using a 3D-Printed Patient-Specific Instrument for Medial Opening Wedge High Tibial Osteotomy. *Biomed Res Int* 2018:9246529. (IF=2.276; BIOTECHNOLOGY & APPLIED MICROBIOLOGY: 92/156)
27. Chiang YH, Lin CC, Chen YC, **Lee OK\***. Mar. 2018. Treatment of Arsenite Intoxication-Induced Peripheral Vasculopathy with Mesenchymal Stem Cells. *Int J Mol Sci* 19(4): 1026. (IF=4.556, BIOCHEMISTRY & MOLECULAR BIOLOGY: 74/297)
28. Wen KC , Sung PL, Chou YT, Pan CM, Wang PH\*, **Lee OK\***, Wu CW\*. Feb 2018. The role of EpCAM in tumor progression and the clinical prognosis of endometrial carcinoma. *Gynecol Oncol* 148(2):383-392. (IF=4.623; OBSTETRICS & GYNECOLOGY: 8/82)
29. Lee CW, Chen YF, Wu HH, **Lee OK\***. Jan 2018. Historical Perspectives and Advances in the Mesenchymal Stem Cell Research for the Treatment of Liver Diseases. *Gastroenterology* 154(1):46-56. (IF=17.373; GASTROENTEROLOGY & HEPATOLOGY: 4/88)
30. Kuo SW, Rimando MG, Liu YS\*, **Lee OK\***. Oct 2017. Intermittent Administration of Parathyroid Hormone 1–34 Enhances Osteogenesis of Human Mesenchymal Stem Cells by Regulating Protein Kinase C $\delta$ . *Int J Mol Sci* 18(10): 2221. (IF=4.556, BIOCHEMISTRY & MOLECULAR BIOLOGY: 74/297)
31. Chang CC, Chang CW, Nguyen PA, Chang TH, Shih YL, Chang WY, Horng JT, **Lee OK\***, Ho JH\*. Aug 2017. Ankylosing spondylitis and the risk of cancer. *Oncol Lett* 14(2):1315-1322. (IF=2.311; ONCOLOGY: 182/244)
32. Lee CW, Huang WC, Huang HD, Huang YH, Ho JH, Yang MH, Yang VW, **Lee OK\***. Jul 2017. DNA methyltransferases modulate hepatogenic lineage plasticity of mesenchymal stromal cells. *Stem Cell Reports* 9(1):247-263. (IF=6.032; CELL & TISSUE ENGINEERING: 5/29)
33. Chen YC, Fan HY, Curtis JR, **Lee OK**, Liu CK, Huang SJ\*. Jun. 2017. Determinants of receiving palliative care and ventilator withdrawal among patients with prolonged mechanical ventilation. *Crit Care Med* 45(10):1625-1634. (IF=7.414; CRITICAL CARE MEDICINE: 5/36)
34. Liao KH, Chang SJ, Chang HC, Chien CL, Huang TS, Feng TC, Lin WW, Shih CC, Yang MH, Yang SH, Lin CH, Hwang WL\*, **Lee OK\***. Jun. 2017. Endothelial angiogenesis is directed by RUNX1T1-regulated VEGFA, BMP4 and TGF- $\beta$ 2 expression. *PLoS ONE* 12(6):e0179758. (IF=2.740; MULTIDISCIPLINARY SCIENCES: 27/71)
35. Lee MS, Kuo LL\*, Tan EC, **Lee OK**. Jun. 2017. Is normal-tension glaucoma a risk factor for Stroke? – A 10-year follow-up study. *PLoS ONE* 12(6):e0179307. (IF=2.740; MULTIDISCIPLINARY SCIENCES: 27/71)
36. Yang CY, Chau YP, Chen A, **Lee OK**, Tarng DC, Yang AH\*. May 2017. Targeting cannabinoid signaling for peritoneal dialysis-induced oxidative stress and fibrosis. *World J Nephrol* 6(3):111-118.

37. Wu HH, Lee **OK**\*. May 2017. Exosomes from mesenchymal stem cells induce the conversion of hepatocytes into progenitor oval cells. *Stem Cell Res Ther* 8(1):117. (IF=5.116; MEDICINE, RESEARCH & EXPERIMENTAL: 26/138)
38. Lee IH, Huang SS, Chuang CY, Liao KH, Chang LH, Chuang CC, Su YS, Lin HJ, Hsieh JY, Su SH, Lee **OK**, Kuo HC\*. May 2017. Delayed epidural transplantation of human induced pluripotent stem cell-derived neural progenitors enhances functional recovery after stroke. *Sci Rep* 7(1):1943. (IF=3.998, MULTIDISCIPLINARY SCIENCES: 17/71)
39. Wen KC, Sung PL, Hsieh SL, Chou YT, Lee **OK**, Wu CW, Wang PH\*. Apr. 2017.  $\alpha$  2,3-sialyltransferase type I regulates migration and peritoneal dissemination of ovarian cancer cells. *Oncotarget* 8(17):29013-29027.
40. Tsao YT, Shih YY, Liu YA, Liu YS\*, Lee **OK**\*. Feb. 2017. Knockdown of SLC41A1 magnesium transporter promotes mineralization and attenuates the magnesium inhibition during the osteogenesis of mesenchymal stromal cells. *Stem Cell Res Ther* 8(1):39. (IF=5.116; MEDICINE, RESEARCH & EXPERIMENTAL: 26/138)
41. Tsai YA, Liu RS, Lirng JF, Yang BH, Chang CH, Wang YC, Wu YS, Ho JH, Lee **OK**\*, Soong BW\*. Mar. 2017. Treatment of spinocerebellar ataxia with mesenchymal stem cells: A phase I-IIa clinical study. *Cell Transplantation* 26(3):503-512. (IF=3.341; TRANSPLANTATION: 8/24)
42. Tsao YT, Huang YJ, Wu HH, Liu YA, Liu YS\* and Lee **OK**\*. Jan. 2017. Osteocalcin mediates biomineralization during osteogenic maturation in human mesenchymal stromal cells. *Int J Mol Sci* 18(1):159. (IF=4.556, BIOCHEMISTRY & MOLECULAR BIOLOGY: 74/297)
43. Lee CW, Hsiao WT, Lee **OK**\*. Nov. 2016. Mesenchymal stromal cell-based therapies reduce obesity and metabolic syndromes induced by a high-fat diet. *Transl Res* 182:61-74. (IF=5.411, MEDICINE, GENERAL & INTERNAL: 17/165)
44. Rimando MG, Wu HH, Liu YA, Lee CW, Kuo SW, Lo YP, Tseng KF\*, Liu YS\* and Lee **OK**\*. Nov. 2016. Glucocorticoid receptor and Histone deacetylase 6 mediate the differential effect of dexamethasone during osteogenesis of mesenchymal stromal cells (MSCs). *Sci Rep* 6:37371. (IF=3.998, MULTIDISCIPLINARY SCIENCES: 17/71)
45. Yang YH, Hsieh TL, Ji AT, Hsu WT, Liu CY, Lee **OK**, Ho JH\*. Oct. 2016. Stromal tissue rigidity promotes mesenchymal stem cell-mediated corneal wound healing through the transforming growth factor  $\beta$  signaling pathway. *Stem Cells* 34:2525–2535. (IF=6.022; BIOTECHNOLOGY & APPLIED MICROBIOLOGY: 18/156)
46. Chen YQ, Liu YS, Liu YA, Wu YC, del Álamo JC, Chiou A, Lee **OK**\*. Aug. 2016. Bio- chemical and physical characterizations of mesenchymal stromal cells along the time course of directed differentiation. *Sci Rep* 6:31547. (IF=3.998, MULTIDISCIPLINARY SCIENCES: 17/71)
47. Yen MH, Wu YY, Lin YS, Rimando MG, Ho JH\*, Lee **OK**\*. Aug. 2016. Efficient generation of hepatic cells from mesenchymal stromal cells by an innovative bio-microfluidic cell culture device. *Stem Cell Res Ther* 7(1):120. (IF=5.116; MEDICINE, RESEARCH & EXPERIMENTAL: 26/138) **(Cover Feature)**
48. Chou PH, Wang ST, Ma HL, Liu CL, Chang MC, Lee **OK**\*. Jul. 2016. Development of a two-step protocol for culture expansion of human annulus fibrosus cells with TGF- $\beta$ 1 and FGF-2. *Stem Cell Res Ther* 7(1):89. (IF=5.116; MEDICINE, RESEARCH & EXPERIMENTAL: 26/138)
49. Yang YS, Chin YT, Hsieh MT, Lai HY, Ke CC, Crawford DR, Lee **OK**, Fu E,

- Mousa SA, Grasso P, Liu LF, Chang HY\*, Tang HY, Lin HY\*, Davis PJ. Mar. 2016. Novel leptin OB3 peptide-induced signaling and progression in thyroid cancers: Comparison with leptin. *Oncotarget* 7(19):27641-54.
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51. Chou PH, Wang ST, Yen MH, Liu CL, Chang MC, Lee OK\*. Feb. 2016. Fluid-induced, shear stress-regulated extracellular matrix and matrix metalloproteinase genes expression on human annulus fibrosus cells. *Stem Cell Res Ther* 7(1):34. (IF=5.116; MEDICINE, RESEARCH & EXPERIMENTAL: 26/138)
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iv. Scientific Papers/Posters Presented in Conferences

a. International Conferences

- **64<sup>th</sup> Annual Meeting of the Biophysical Society, February 15-19, 2020, San Diego, USA**  
**Oscar K. Lee.** Hair Regeneration Induced by Mechanical Stretch through the Alternative Activation of Macrophages.
- **25<sup>th</sup> Annual Meeting of the International Society for Cell & Gene Therapy, May 29- June 1, 2019, Melbourne, Australia**  
*As the Co-Chair of Plenary Session and the invited speaker of MSC Workshop Session.*
- **24<sup>th</sup> Annual Meeting of the International Society for Cellular Therapy, May 2-5, 2018, Montreal, Canada**  
Chien-Wei Lee, **Oscar K. Lee.** Ginkgo Biloba Extract Treats Osteoporosis.

- **2018 POS Clinical and Research Workshop, February 8-9, 2018, London, UK**  
Chih-Yuan Shih, Jason J. Lee, Li-Lin Kuo, **Oscar K. Lee**. The Value of IPOS for Objective Structured Clinical Examination in Postgraduate Training Program.
- **2017 International Society for Stem Cell Research, June 14-17, 2017, Boston, MA, USA**  
Szu-Ying Chu, **Oscar K. Lee**, Chih-Chiang Chen. Fractional CO2 laser induces a quorum sensing like efficient regeneration.
- **23<sup>th</sup> Annual Meeting of the International Society for Cellular Therapy, May 3-6, 2017, London, UK**  
Chien-Wei Lee, Wei-Ting Hsiao and **Oscar K. Lee**. Mesenchymal stromal cell-based therapies alleviate obesity and metabolic syndromes induced by a high-fat diet.
- **62<sup>th</sup> Annual Meeting of the Orthopaedic Research Society, March 19-22, 2017, San Diego, CA, USA**
  - Ting-Wei Kao, Yi-Chang Wu, Arthur Chiou, Keng-Hui Lin, Yi-Shiuan Liu, **Oscar K. Lee**. Alteration of 3D matrix stiffness regulates intracellular viscoelasticity of mesenchymal stem cells.
  - Qiao-Ling Chou, Yi-Shiuan Liu, **Oscar K. Lee**. Ginkgolide B Promotes Osteogenic Differentiation of Mesenchymal Stromal Cells.
- **Annual Meeting of the International Association for Medical Education in Europe, August 27-31, 2016, Barcelona**  
Ting-Fang Chiu, Li-Lin Kuo, Lin-Yang Chi, **Oscar K. Lee**. Awareness of medical ethics education: from the perspective of pediatric staff in a regional teaching hospital in Taiwan.
- **22<sup>th</sup> Annual Meeting of the International Society for Cellular Therapy, May 25-28, 2016, Singapore**
  - Shu-Wen Kuo, Marilyn G. Rimando, **Oscar K. Lee**. Intermittent administration of teriparatide enhances osteogenesis of human mesenchymal stem cells by regulating protein kinase C.
  - Marilyn G. Rimando, Hao-Hsiang Wu, Chien-Wei Lee, Shu-Wen Kuo, Yin-Ping Lo, Yi-Shiuan Liu, **Oscar K. Lee**. Bimodal effects of Dexamethasone on osteogenic differentiation of mesenchymal stromal cells.
  - Yi-Shiuan Liu, Ya-Yi Shih, Yu-An Liu, **Oscar K. Lee**. A member of solute carrier family SLC41 regulates the interaction of magnesium and mesenchymal stromal cells during osteogenic differentiation.
- **62<sup>th</sup> Annual Meeting of the Orthopaedic Research Society, March 5-8, 2016, Orlando, Florida, USA**  
Yi-Shiuan Liu, Ya-Yi Shih, Yu-An Liu, **Oscar K. Lee**. A magnesium transporter regulates the interaction of magnesium and mesenchymal stromal cells during osteogenic differentiation.
- **Stem Cell Meeting on the Mesa, October 7-9, 2015, San Diego, CA, USA**

Bin-Wen Soong and **Oscar K. Lee**. Intravenous administration of allogeneic mesenchymal stem cell in patients with cerebellar ataxias: a phase I/IIa clinical trial.

➤ **The 2015 Annual Conference of an International Association for Medical Education, September 4-9, 2015, Glasgow, Scotland, UK**

- Yang-Ching Chen, Li-Lin Kuo, **Oscar K. Lee**. Nurse specialist OSCE programs for preparation of license exam.
- Li-Lin Kuo, Yang-Ching Chen, **Oscar K. Lee**. OSCE programs for both resident Doctors and nurse specialists.
- Pei-Wei Wang, Li-Lin Kuo, **Oscar K. Lee**, Ran-Chou Chen. Recognition and assessment of medical student satisfaction receiving medical ethics using multimedia case teaching video.
- Jung Chieh Du, Li-Lin Kuo, Yang-Ching Chen, Jason Jiun Shiou Lee, **Oscar K. Lee**. Improvement of online learning (e-learning) increased the satisfaction rate of clinical teaching qualities from PGY trainees.

➤ **21<sup>th</sup> Annual Meeting of the International Society for Cellular Therapy, May 28-30, 2015, Las Vegas, Nevada, USA**

- Hao-Hsiang Wu, Yu-Zhen Huang, Yao-Ming Wu, Hsuan-Shu Lee, **Oscar K. Lee**. Molecular cross-talk of mouse mesenchymal stem cells with different kinds of liver cells.
- Chien-Wei Lee, **Oscar K. Lee**. Conversion of hepatocytes into multipotent mesenchymal stromal cells by transforming growth factor beta-1.
- Hao-Hsiang Wu, Jennifer H. Ho and **Oscar K. Lee**. Detection of hepatic maturation by Raman spectroscopy in mesenchymal stromal cells undergoing hepatic differentiation.

➤ **61<sup>th</sup> Annual Meeting of the Orthopaedic Research Society, March 28-31, 2015, Las Vegas, Nevada, USA**

Yi-Shiuan Liu, Yu-An Liu, Chin-Ching Huang, Meng-Hua Yen, Shu Chien, **Oscar K. Lee**. Transient Receptor Potential Melastatin 7 is mechanosensitive to shear flow and modulates osteogenic differentiation of mesenchymal stromal cells through Osterix pathway.

➤ **60<sup>th</sup> Annual Meeting of the Orthopaedic Research Society, March 15-18, 2014, New Orleans, Louisiana, USA**

- Yu-Han Chen, Meng-Hua Yen, **Oscar K. Lee**. Measurement of Young's modulus alteration by atomic force microscopy during osteogenic differentiation of human mesenchymal stem cells.
- Yin-Ping Lo, **Oscar K. Lee**. Effects of three-dimensional porous structural geometry on osteogenic differentiation of mesenchymal stem cells.
- Wen-Ting Hsieh, **Oscar K. Lee**. Effects of matrix mechanical property on mesenchymal stem cells in three-dimensional porous scaffolds.

➤ **2014 Biophysical Society 58<sup>th</sup> Annual Meeting, February 15-19, 2014, San Francisco, CA, USA**

Yi-Shiuan Liu, Chin-Ching Huang, Yu-An Liu, Meng-Hua Yen, **Oscar K. Lee**. Shear flow regulates osteogenic differentiation of mesenchymal

stem cells through TRPM7-mediated Osterix pathway.

➤ **World Stem Cell Summit 2013, December 4-6, 2013, San Diego, CA, USA**

Meng-Hua Yen, Yuan-Yi Wu, and **Oscar K. Lee**. Rapid generation of mature hepatocyte-like cells from mesenchymal stem cells by a novel bio-microfluidic device.

➤ **2013 11th International Society for Stem Cell Research, June 12-15, 2013, Boston, MA, USA**

- Wei-Cheng Jiang, Yu-Hao Cheng, Meng-Hua Yen, Yin Chang, Vincent W. Yang, **Oscar K. Lee**. Restoration of liver function by transplantation of tissue-engineered hepatic-like tissues.

- Jennifer H. Ho, **Oscar K. Lee**. The activation of directional stem cell motility by green light-emitting diode irradiation.

➤ **59th Annual Meeting of the Orthopaedic Research Society, January 26-29, 2013, San Antonio, TX, USA**

- Yi-Shiuan Liu, Chien-Tzu Tseng, Meng-Hua Yen, Chin-Jing Huang, Lee OK. Shear stress induces calcium influx and regulates osteogenic differentiation of mesenchymal stem cells through TRP ion channels.

- Carol Y Kuo, Pei-san Hung, **Oscar K. Lee**. Real-Time Detection of osteogenic maturation in mesenchymal stromal cells by Raman spectroscopy.

➤ **18<sup>th</sup> Annual ISCT Meeting, June 5-8, 2012, Sheraton Seattle Seattle, WA, USA**

You-Kang Chang, **Oscar K. Lee**. Amine-surface-modified superparamagnetic iron oxide nanoparticles interfere with differentiation of human mesenchymal stem cells.

➤ **58th Annual Meeting of the Orthopaedic Research Society, February 4-7, 2012, San Francisco, CA, USA**

- Shun-Pei Hung, Jennifer H. Ho, Yu-Ru V. Shih, Ting Lo, **Oscar K. Lee**. Effects of hypoxia on human mesenchymal stem cells.

- Shu-Wen Kuo, Hsin-I Lin, Yu-Ru V. Shih, Ta-Jen Yen, **Oscar K. Lee**. Cell fate regulation of human mesenchymal stem cells by three-dimensional nano-topography of silicon nanowires.

b. Local/national Conferences

➤ **Biomaterials International 2015, June 1-2, 2015, Pingtung, Taiwan**

- Yin-Ping Lo, Yi-Shiuan Liu, Marilyn G. Rimando, Jennifer Hui-Chun Ho, Keng-hui Lin and **Oscar K. Lee**. Effects of three-dimensional spherical spatial boundary conditions on osteogenic differentiation of mesenchymal stromal cells.

- Wen-Ting Hsieh, Yi-Shiuan Liu, Keng-hui Lin and **Oscar K. Lee**. Effects of matrix mechanical property on mesenchymal stem cells in three-dimensional porous scaffolds.

- Meng-Hua Yen, Yuan-Yi Wu, Yi-Shiuan Liu and **Oscar K. Lee**. Rapid Generation of mature hepatocyte-like cells from mesenchymal stem cells by a novel bio-microfluidic system.
- **2013 International Symposium on Development, Morphogenesis and Stem Cells & 9th Annual Meeting of Taiwan Society for Stem Cell Research, October 5-6, 2013, Taipei, Taiwan**
  - Yu-Hau Cheng, Wei-Cheng Jiang, **Oscar K. Lee**. Liver tissue engineering through implanting human pluripotent stem cells into decellularized liver scaffold with a perfusion system.
  - Wen-Ting Hsieh, Yi-Shiuan Liu, Keng-hui Lin, **Oscar K. Lee**. The effects of matrix stiffness in three-dimensional scaffold on osteogenic differentiation of human mesenchymal stem cells.
  - Wei-Cheng Jiang, Yu-Hao Chen, Meng-Hua Yen, Yin Chang, Vincent W. Yang, **Oscar K. Lee**. Restoration of liver function by Transplantation of tissue-engineered Hepatic-like tissue from acellular liver Scaffolds and mesenchymal stem cells.
  - Yen-Ting Kuan, Meng-Hua Yen, **Oscar K. Lee**. Rapid generation of mature hepatocyte-like cells from human induced pluripotent stem cells by a microfluidic device.
  - Yi-Shiuan Liu, Chin-Ching Huang, Meng-Hua Yen, **Oscar K. Lee**. Shear flow regulates osteogenic differentiation of mesenchymal stem cells through osterix pathway.
  - Yin-Ping Lo, Yi-Shiuan Liu, Keng-Hui Lin and **Oscar K. Lee**. Effects of three-dimensional structural geometry on osteogenic differentiation of mesenchymal stem cells.
  - Jennifer H. Ho, **Oscar K. Lee**, Yun-Ju Fu, Hung-Ta Shih, Chien-Yu Tseng, Cheng-Chih Chung, Chia-Li Han, and Yu-Ju Chen. A proteomic study of mesenchymal stem cells on diet-induced enhanced fatty-acid metabolism and diabetes.
  - Jui-Yu Hsieh, Tse-Shun Huang, Shu-Meng Cheng, Wei-Shiang Lin, Tsung-Neng Tsai, **Oscar K. Lee** and Hsei-Wei Wang. Mir-146a-5p circuitry uncouples cell proliferation and migration, but not differentiation, in human mesenchymal stem cells.
  - Chien-Chih Ke, Ren-Shyan Liu, Atsushi Suetsugu, Hiroaki Kimura, Jennifer H. Ho, **Oscar K. Lee**, Robert M. Hoffman. In vivo fluorescence imaging reveals the promotion of mammary tumorigenesis by mesenchymal stromal cells.
  - Yuan-Yi Wu, Meng-Hua Yen, **Oscar K. Lee**. Rapid generation of mature hepatocyte-like cells from mesenchymal stem cells by a bio-microfluidic device.
- **The 4th Meeting of Asian Cellular Therapy Organization, July 18-20, 2013, Miaoli, Taiwan**
  - Yin-Ping Lo, **Oscar K. Lee**. Effects of three-dimensional structural geometry on osteogenic differentiation of mesenchymal stem cells.
  - Wen-Ting Hsieh, **Oscar K. Lee**. The effects of matrix stiffness in three-dimensional scaffold on osteogenic differentiation of human mesenchymal stem cells.

- Chien-Wei Lee, **Oscar K. Lee**. Plasticity of adult mesenchymal stromal cells in hepatogenic differentiation.
- Ha-Hsiang Wu, Yu-Zhen Huang, Yao-Ming Wu, Hsuan-Shu Lee, **Oscar K. Lee**. Molecular cross-talk of mouse mesenchymal stromal cells with different kinds of liver cells.
- Chien-Chih Ke, Ren-Shyan Liu, Atsushi Suetsugu, Hiroaki Kimura, Jennifer H. Ho, **Oscar K. Lee**, Robert M. Hoffman. In vivo fluorescence imaging reveals the promotion of mammary tumorigenesis by mesenchymal stromal cells.
- Carol Y. Kuo, How-foo Chen, **Oscar K. Lee**. Development of lab-on-a-chip Surface plasmon resonance (Spr) technique for real-time imaging to detect osteogenic differentiation of mesenchymal stem cells.

v. Major Research Grants

MOST 109-2622-B-010-006	01/11/20-31/10/21
MOST	NTD\$1,550,000
Establishment of quality control system for umbilical cord-derived mesenchymal stem cells	
MOST 109-2823-8-010-003-CV	01/12/20-31/10/21
MOST	NTD\$2,062,000
Application of artificial intelligence in drug discovery for COVID-19	
MOST106-3114-B-010-002/107-2321-B-010-007	01/05/17-30/4/21
108-2321-B-010-006/109-2321-B-010-005	
MOST	NTD\$36,700,000
Advanced translation of cellular reprogramming technologies in regenerative medicine	
MOST 108-2923-B-010 -002 -MY3	01/04/19-31/3/22
MOST	NTD\$7,086,600
Profiling radioREsistant Differentiated thyroid Cancer: genes, immunity, cancer stem cells and epithelial-mesenchymal transition	
NHRI-EX108-10625EI	01/01/19-31/12/19
NHRI	NTD\$2,005,000
Exploration of mechanobiological effects on hair follicles and the potential for alopecia treatment (3/3)	
MOST107-2314-B-010-015-MY3	01/08/18-31/7/21
MOST	NTD\$4,200,000
A multi-scale evaluation of system complexity for stretch-induced hair regeneration	
NHRI-EX107-10625EI	01/01/18-31/12/18
NHRI	NTD\$1,970,000
Exploration of mechanobiological effects on hair follicles and the potential for alopecia treatment (2/3)	
MOST105-2633-B-010-001	01/08/16-31/07/18
MOST	NTD\$2,000,000
Effects of skin tension and strain on hair cycles and hair follicle stem cells	

NHRI-EX106-10625EI NHRI Exploration of mechanobiological effects on hair follicles and the potential for alopecia treatment (1/3)	01/01/17-31/12/17 NTD\$1,998,000
MOST106-2321-B-010-008 MOST Hepatic tissue engineering with induced pluripotent stem cells and decellularized liver scaffolds	01/01/17-31/12/17 NTD\$1,400,000
MOST103-2321-B-010-023 MOST Hepatic reprogramming: molecular cross-talk and mechanistic interactions during differentiation and de-differentiation of mesenchymal stem cells and hepatocytes	01/10/14-31/12/16 NTD\$5,400,000
MOST103-2314-B-010-053-MY3 MOST Establishment of a novel nanoresonant spectroscopic optofluidic system for live-cell investigation of mechanobiological characteristics in stem cells	01/08/14-31/07/17 NTD\$5,100,000
NSC 102-2120-M-010-001 MOST Establishment of a highly sensitive portable surface plasmon resonance-based lab-on-a chip device for detection of cellular physiology and pathology	01/08/12-31/07/15 NTD\$18,000,000
101-EC-17-A-17-S1-203 MOEA Development of industrialized technology platform for identification, purification and massive culture-expansion of mesenchymal stem cells	01/05/12-30/04/15 NTD\$13,500,000
NSC100-2321-B-010-009 MOST Stemness genes in cell differentiation, tissue regeneration, and tumor formation — Effects of mechano-physical stimuli on gene regulation during hepatic differentiation of stem cells	01/10/11-30/09/14 NTD\$9,349,000
NSC 100-2314-B-010-030-MY3 MOST Study of mechanical force-induced osteogenic lineage commitment of mesenchymal stem cells	01/08/11-31/07/14 NTD\$4,140,000

vi. Invited Lectures, Instructional and Keynote Lectures

Aug. 2002	Bio Taiwan 2002
Jan. 2003	11 <sup>th</sup> Sino-Japan Symposium on Cancer Treatment
Oct. 2003	Bio Taiwan 2003
Jun. 2004	Annual Meeting of Chinese Medical Association (Taipei)
Jul. 2004	Tokyo Medical and Dental University, Japan
Aug. 2004	8 <sup>th</sup> Tokyo International Symposium on Cord Blood Transplantation, Japan
Feb. 2005	The 51 <sup>st</sup> Annual Meeting of the Orthopaedic Research Society, United State (Moderator)



Jun. 2005 Annual Meeting of Chinese Medical Association (Taipei)  
 Sep. 2005 Seoul National University, Korea  
 Nov. 2005 Annual Meeting of Formosan Medical Association  
 Mar. 2006 University of Michigan, United State  
 Apr. 2006 National Institutes of Health, United State  
 Apr. 2006 University of Tokyo, Japan  
 Apr. 2006 Tokyo Medical and Dental University, Japan  
 Jun. 2006 Annual Meeting of Chinese Medical Association (Taipei), Taiwan  
 Sep. 2006 Annual Meeting of Taiwan Society for Stem Cell Research, Taiwan  
 Oct. 2006 International Conference on Stem Cells and Regenerative Medicine, Taiwan  
 Nov. 2006 1<sup>st</sup> Korea Mesenchymal Stem Cell Symposium, Korea  
 Nov. 2006 Taiwan Mesenchymal Stem Cell Symposium, Taiwan  
 Jul. 2007 Biotechnology Month, Taipei, Taiwan  
 Aug. 2007 14<sup>th</sup> International Symposium on Limb Salvage, Germany  
 Sep. 2007 Biotechnology 2007, Taiwan  
 Oct. 2007 6<sup>th</sup> Combined Meeting of the Orthopaedic Research Societies, Hawaii (Moderator)  
 Nov. 2007 2<sup>nd</sup> Korea Mesenchymal Stem Cell Symposium, Korea  
 Jan. 2008 2<sup>nd</sup> Taiwan International Mesenchymal Stem Cell Symposium, Taiwan  
 Jun. 2008 1<sup>st</sup> Pan Pacific Symposium on Stem Cells Research 2008, Taiwan  
 Jun. 2008 ACGA-HKSMG International Conference on Genetic and Genomic Medicine, Hong Kong (Invited Speaker)  
 Jun. 2008 The Chinese University of Hong Kong  
 Jun. 2008 2<sup>nd</sup> Shanghai International Congress on Orthopaedics, China  
 Jun. 2008 France-Taiwan Frontiers of Science 1<sup>st</sup> Symposium, Taiwan  
 Jul. 2008 Gordon Research Conference on Musculoskeletal Bioengineering, USA (Discussion leader & invited lecturer)  
 Aug. 2008 SICOT - SIROT 2008 XXIV Triennial World Congress, Hong Kong  
 Oct. 2008 International Federation of Adipose Therapeutics and Science (IFATS) 2008, France  
 Nov. 2008 2008 Taiwan International Somatic Stem Cell Symposium, Taiwan  
 Dec. 2008 2008 Healthy City Symposium in Taipei, Taiwan  
 Dec. 2008 2008 Asian Hepatitis Forum, Korea  
 Feb. 2009 5<sup>th</sup> Annual Meeting of Asian Hematology Association, Japan  
 Apr. 2009 2<sup>nd</sup> Pan Pacific Symposium on Stem Cells Research 2009, Taiwan  
 Apr. 2009 Annual meeting of Cell Transplant Society, Japan (Invited Speaker)  
 May 2009 3<sup>rd</sup> International Networking for Young Scientists (INYS) – Therapeutic and Research Applications of Human Stem Cells, Taiwan  
 May 2009 International Symposium of Stem Cells and Bioengineering & 2009 Annual Meeting of Taiwan Society for Stem Cell Research, Taiwan (Moderator)  
 Jun. 2009 Second Symposium on France-Taiwan Frontiers of Science, France (Chairman, Life Science)  
 Sep. 2009 International Stem Cell Workshop, Newcastle University, United Kingdom  
 Sep. 2009 The Taiwan Scottish Joint Workshop on Diseases and Regenerative Medicine, Edinburgh University, United Kingdom  
 Nov. 2009 Great Ormond Street Hospital for Children NHS Trust and UCL Institute of Child Health, London, United Kingdom  
 Apr. 2010 The 3<sup>rd</sup> Pan Pacific Symposium on Stem Cells Research 2010, Taiwan  
 58<sup>th</sup> Spring Meeting of Taiwan Orthopaedic Association (Moderator)

Jun. 2010 France-Taiwan Frontiers of Science 3<sup>rd</sup> Symposium, Taiwan  
 Jul. 2010 International Symposium for the 50<sup>th</sup> of Anniversary Taipei Medical University, Taiwan (Moderator)  
 Sep. 2010 Regenerative Medicine 2010: From Stem Cells to Disease Models, Taiwan  
 Oct. 2010 7<sup>th</sup> Combined Meeting of Orthopaedic Research Society, Kyoto, Japan (Moderator)  
 Nov. 2010 16<sup>th</sup> Triennial Congress of the APOA, Taiwan (Moderator)  
 Aug. 2011 UST-UCSD I-RICE International Symposium & the 5<sup>th</sup> Joint Symposium between NYMU and UCSD, Taiwan  
 Aug. 2011 Annual Symposium on Biomedical Engineering and Technology, Taiwan (Moderator)  
 Oct. 2011 International Symposium on Recent Advances in Pluripotent Stem Cells & 7<sup>th</sup> Annual Meeting of Taiwan Society for Stem Cell Research, Taiwan  
 Oct. 2011 Italy-Taiwan Bilateral Workshop, Taiwan  
 Dec. 2011 The 6<sup>th</sup> International Congress of Chinese Orthopaedic Association, Beijing, China  
 Jun. 2012 Cross-Strait Symposium on Current Advances in Cell Therapy, Taipei  
 Sep. 2012 The 2012 Taiwan-UK Symposium on Stem Cell and Cancer Research, London, United Kingdom  
 Sep. 2012 The Taiwan-Ireland Joint Workshop on Cancer and Stem Cell Biology, Dublin, Ireland  
 Oct. 2012 2012 International Symposium on Recent Advances in Stem Cells and Cancer, Taiwan (Moderator)  
 Oct. 2012 The 38<sup>th</sup> Annual Meeting of the Taiwanese Dermatology Association, Taiwan  
 Nov. 2012 Development of Bionic Nano-Scaffolds and the Application in Regenerative Medicine, Taiwan  
 Jan. 2013 The 30<sup>th</sup> Orthopaedic Surgery Seminar of Tokyo Medical and Dental University, Tokyo, Japan  
 Apr. 2013 2013 Xi'an International Summit of Hepatology, Xi'an, China  
 Jun. 2013 2013 International Symposium on Recent Advance of Induced Pluripotent Stem Cells and Cell Therapy, Taiwan  
 Jul. 2013 The Annual Meeting of the Thai Society of Cellular Therapy and the Stem Cell Transplantation, Bangkok, Thailand  
 Sep. 2013 20<sup>th</sup> PIC/S Expert Circle on Human Blood, Tissues and Cells, Taiwan  
 Apr. 2014 International Society for Cellular Therapy 20<sup>th</sup> Annual Meeting, Paris, France  
 Jun. 2014 2014 International Cell Therapy Symposium, Shanghai, China  
 Jul. 2014 2014 Cross-Strait Forum on Advanced in Liver Disease Treatment, Fuzhou, China  
 Aug. 2014 1<sup>st</sup> China Stem Cell International Research Conference & Stem Cell Summit on Research and Application of Regenerative Medicine, Harbin, China  
 Oct. 2014 Cross-Strait Orthopedic Seminar Series, Guangzhou, China  
 Nov. 2014 4<sup>th</sup> CUHK International Symposium on Stem Cell Biology and Regenerative Medicine, Hong Kong  
 Nov. 2014 1<sup>st</sup> Cross-Strait Symposium on Cancer Biotherapy, Fuzhou, China  
 Dec. 2014 2014 Annual Conference of Taiwan Association for the Study of the Liver, Taiwan  
 Mar. 2015 Translational Medicine Symposium of Taipei Medical University, Taiwan

Mar. 2015	The 30 <sup>th</sup> Joint Annual Conference of Biomedical Science, Taiwan
May 2015	NYMU-CUHK Forum on Cell Therapy Applications in Regenerative Medicine, Taiwan
Jun. 2015	The 2015 International Conference for Cell Therapy, Chengdu, China
Jun. 2016	The 2016 International Conference for Cell Therapy, Wuhan, China
Aug. 2016	2016 Annual Meeting of Korean Society for Stem Cell Research, Seoul, Korea
Sep. 2016	The 2016 International Combined Meeting of Orthopedic Research Societies, Xian, China
Oct. 2016	The 3 <sup>rd</sup> International Symposium of Stem Cell & Regenerative Medicine Institute, Seoul, Korea
Nov. 2016	The Second Chinese Disease Bio-therapeutic Conference, Beijing, China
Apr. 2017	Department Research Day, Department of Orthopaedics & Traumatology, The Chinese University of Hong Kong, Hong Kong
May 2017	International Symposium of Orthopedic Research, Taipei, Taiwan
Sep. 2017	Regenerative Medicine Crossroad in Tokyo #5, Tokyo, Japan
Oct. 2017	8th Annual Meeting of the Asian Cellular Therapy Organization, Tokyo, Japan
Nov. 2017	7th CUHK International Symposium on Stem Cell Biology and Regenerative Medicine, The Chinese University of Hong Kong, Hong Kong
Dec. 2017	Nanjing University-U Penn Gaochun Mesenchymal Stem Cell Summit, Nanjing University and University of Pennsylvania, Nanjing, China
Jan. 2018	Research Studies on Annulus Fibrosus Cells, The Chinese University of Hong Kong, Hong Kong
Apr. 2018	2018 Musculoskeletal Regeneration Research Network Symposium, Hang Zhou, China
May 2018	The 2018 International Conference for Cell Therapy, Shanghai, China
May 2018	MIS/Robotic Surgery in Total Joint Arthroplasty, The Chinese University of Hong Kong, Hong Kong
May 2019	2019 Annual Meeting of the International Society for Cell & Gene Therapy, Melbourne, Australia
Jun. 2019	Taiwan Arthroscopy and Knee Society 2019 Annual Meeting, Taiwan
Sep. 2019	Consensus Camp, China Medical University, Taiwan
Sep. 2019	2019 Internatioanl Summit for Shock Wave, CAOS and Regeneration Medicine, Koahsiung Chang Gung Memorial Hospital of the C.G.M.F., Taiwan

vii. Professional Journal Editorial Board and Reviewer

Editor-in-Chief, Taipei City Medical Journal (2014 – 2018)

Associate Editor, Cytotherapy (2018-current)

Associate Editor, Stem Cell Research & Therapy (2014 – current)

Executive Advisory Board, American Board of Stem Cell Medicine and Surgery (2014 – current)

Editorial Board, SM Journal of Clinical Medicine (2015 – current)

Editorial Board, SM Journal of Biomedical Engineering (2015 – current)

Editorial Board, Cell Transplantation: The Regenerative Medicine Journal (2015 – current)

Editorial Board, Journal of Cellular Immunotherapy (2014 – current)

Editorial Board, Current Gene Therapy (2013 – 2017)

Editor-in Chief, World Journal of Stem Cells (2011 – 2017)

Editorial Board, The Scientific World Journal (2011 – 2017)  
Editorial Board, Formosan Journal of Musculoskeletal Disorders (2011 – current)  
Editorial Board, Stem Cell Research & Therapy (2009 – current)  
Editorial Board, The Open Tissue Engineering & Regenerative Medicine Journal (2008 – 2013)  
Scientific Review Board, Orthopaedic Research Society (2004 – current)  
Peer Review Committee, National Science Council, Division of Life Science  
Reviewer of Free Radical Biology & Medicine, since 2012  
Reviewer of Journal of Cell Transplantation, since 2010  
Reviewer of Journal of Biomedical Science, since 2009  
Reviewer of Journal of Cellular and Molecular Medicine, since 2009  
Reviewer of Cytotherapy, since 2009  
Reviewer of Journal of Gastroenterology and Hepatology, since 2009  
Reviewer of Gastroenterology, since 2007  
Reviewer of Arthritis and Rheumatism, since 2006  
Reviewer of Cell proliferation, since 2006  
Reviewer of Molecular Cancer Therapeutics, since 2006  
Reviewer of Journal of Orthopedic Research, since 2006  
Reviewer of Stem Cells, since 2006  
Reviewer of Tissue Engineering, since 2006  
Reviewer of Biomaterials, since 2005  
Reviewer of Cell and Tissue Research, since 2005  
Reviewer of Hepatology, since 2005  
Reviewer of Trends in Biotechnology, since 2005  
Reviewer of Blood, since 2004  
Reviewer of Bone Marrow Transplantation, since 2004  
Reviewer of Journal of Cellular Biochemistry, since 2004  
Reviewer of Connective Tissue Research, since 2004