

## CURRICULUM VITAE

**Name:** Kang (Eric) Ting, D.M.D., D.Med.Sc.

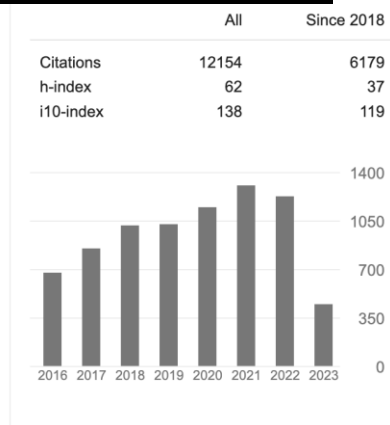
**Current Position:** Director of International Strategy & Adjunct Professor, Forsyth Institute, Cambridge, MA  
Executive Scientific Officer, Scarless Laboratories, CA  
Executive Board Director, the International Orthodontics Foundation, HK

**Date of Birth:** March 10<sup>th</sup>, 1966

**Citizenships:** Taiwan & Hong Kong

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### **Google Scholar h-Index: 62**



### **Academic Leadership:**

#### **2003-2019 Section Chair, UCLA Section of Orthodontics**

##### *Key Accomplishments:*

- Increased recruitment of excellent, diverse faculty candidates and trainees
- Restructured entire clinical operation to increase chair utilization, front-and-back-office workflow efficiency, collections, inventory management, and profit
- Revived a financially failing clinical unit into the most profitable unit in the School
- Boosted section revenue to cover full stipend over base salary for all full-time faculty, including junior faculty – we were the only Section to achieve this in the school.
- Increased section revenue to provide seed funds to support research and academic development for our junior faculty-- we were the only Section to achieve this
- Raised Junior Faculty Development Fund from alumni
- Transformed a struggling research program into a top orthodontic research center
  - Reformed a purely clinical, 27-month orthodontic educational program into a

- research intensive 36 month orthodontic residency / MS program
- Created combined orthodontic/PhD program with NIH training grants
- Over 200 publications & 30 patents
- Over 60 awards won by residents in national and international competitions
- Over \$25M in NIH and industry-related grants and contracts
- Raised \$1.8M USD of funds to renovate state-of-the-art space for the clinical, research, and administrative teams
- Created novel international training programs that other sections in the School are now beginning to mimic
- Established one endowed chair
- Established Thomas R. Bales Orthodontic Clinic
- Established the Orthodontic Innovation Clinic
- Established multidisciplinary mentoring program for junior faculty
- Created a strong alumni network to provide teaching support and network for new graduates and alumni
- Led our section through 3 successful CODA Accreditations without recommendations
- Established the Venice Orthodontic Clinic to serve under-privileged children in Los Angeles County
- Established as the largest academic craniofacial orthodontic center in California cross serving Nevada

**2011-2014**                      **Division Chair, UCLA Division of Clinical Specialties  
(Endodontics, Pediatric Dentistry, Periodontics, and Orthodontics)**

*Key Accomplishments:*

- Recruited Pediatric Chair
- Successful fundraising activities
- Key role in establishing the Felix Yip Endowed Chair for Oral Biology
- Led successful accreditation for all 4 CODA accredited postgraduate programs
- Transformed the previous ineffective clinic financial structure and created the novel “Profit Sharing Center Model” for the Section Endodontics, Pediatric dentistry, and Orthodontics.
- Reversed annual deficits to revenue
- Restructured all 4 sections within the Division to streamline administration, communication, mentoring, problem reporting, and staff training
- Supported and effectively executed policy changes from the dean’s administration and facilitating the communication

**2014-2019**                      **Division Chair, UCLA Division of Growth and Development**

*Key Accomplishments:*

- Created top-down structure to transform disparate clinical sections with turf wars and minimal collaboration into cohesive enterprise with collaborative clinical workflow to maximize clinical utilization
- Removed perceived and actual barriers, and actively encouraged career advancement of division faculty and staff by sponsoring training courses and fellowship

- Increased scholarly output and financial production in all sections
- Established mentoring program for junior faculty and trainees
- Assisted in major renovation projects in Pediatric dental clinic
- Facilitated the collaboration with Division of Public Health in leadership training in Pediatric dentistry and providing dental homes for children
- Research achievement featured in the UCLA Centennial Campaign
- Participated proactively at the University level task force, committees and campaigns, task force for guidelines in patient-oriented research, and Legislative Committee etc.
- Promoted multidisciplinary research to cross boundaries across clinical sections, divisions (Advanced Prosthodontics, Oral Biology) and schools (Bioengineering in School of Engineering, and Orthopedic Surgery, Plastic & Reconstructive Surgery in School of Medicine) - see example of large scale multidisciplinary research below

Example: RR5 Research in the International Space Station

Project: Systemic Therapy of NELL-1 for Spaceflight-Induced Osteoporosis

Sponsors: Center for the Advancement of Science in Space, Inc. (“CASIS”)  
National Aeronautical and Space Administration (“NASA”)

- Key Accomplishments:
- I managed logistics and communication across 12 core teams from multiple academic institutions, government agencies, and private sectors involving 150 researchers.
- For UCLA alone, the project involved over 15 graduate and postdoctoral level researchers, 6 professors, and 3 graduate schools (Dentistry, Medicine, and Engineering)
- Project marks the first American mission to have successfully completed a live-return of rodents from space, and Man’s first ever live-return of drug-treated rodents from space
- Received over 153 news media report
- Awarded the 2018 International Space Station (ISS) Innovation Award for Biology and Medicine for Development of NELL-1 Bone-Growth Systemic Therapy from the American Astronautical Society
- Featured in the UCLA Centennial Campaign as one of the important research achievements by UCLA faculty
- <https://www.youtube.com/watch?v=Us6OxtHFW8>

## **Global Leadership**

2022- Executive Director and Founding Board member of the non-profit International Orthodontics Foundation (<https://www.iofglobal.org/>). Its mission focuses on the improvement of patient care by providing comprehensive quality training and education, innovative and clinical research grants, as well as providing an international network to professionals for lifelong learning in orthodontics and related fields.

### *Key Accomplishments:*

- Created vision and strategy to provide education and outreach program to the global

orthodontic community with annual budget goal of \$1.5M USD

- Fundraised from industrial sectors and philanthropists with a 3 year commitment to develop initial annual budget of \$1.5M USD
- Assembled a committee consists of 13 global leaders in orthodontics (2 deans and 9 department chairs from USA, Europe, and Asia).
- Created scholarship and research grants to promote advances in orthodontics, and allocated initial annual budget > \$700,000 USD. This amount is equivalent to the American Association of Orthodontist Foundation (the official foundation of the American Association of Orthodontists) but without restriction on citizenship.
- Developed strategic partnership with renowned dental schools and institutes to host international symposia and offer lectures free online to benefit doctors globally.

### **Mentorship Experience**

*My strategy as a successful mentor is to find the best co-mentors across different fields and allow mentees to freely explore their creativity and transcend academic boundaries in order to develop their independence.*

#### *Key Accomplishments:*

- Mentored over 39 MS students, 7 PhD students, and over 16 postdoctoral fellows.
- 3 mentees received K08 awards, and 2 later on received R01 awards. Three became associate professors (UCLA and Johns Hopkins), while one of my other mentees became assistant professors (UPenn).
- Numerous awards received by my mentees: Excellence in Research Award at the 2010 American College of Surgeons, Clinical Congress (Janette Zara, 2010); AADR/Johnson & Johnson Healthcare Products Hatton Awards Competition (Ron Siu, 2011); Young Investigator Award, American Society for Bone and Mineral Research (Jia Shen, 2011); Surgical Forum/Excellence in Research Award, American College of Surgeons (Aaron James, 2011 & 2013); International Investigator Award, American Society for Bone and Mineral Research (Aaron James, 2013); First Place Outstanding Medical Student Award, Annual Academic Surgical Congress (Gregory Asatrian, 2014); Second Place Award in AADR Hatton Award competition (Jin Hee Kwak, 2014), First Place Award in IADR Hatton Competition and Second Place Award in AADR Hatton Award competition (Jiayu Shi, 2019) etc.

### **Academic Appointments:**

1991 - 1994	Research Fellow in Orthodontics Harvard School of Dental Medicine
1994 - 1995	Visiting Assistant Professor, Department of Orthodontics University of California, Los Angeles
1994 - 2021	Faculty and Orthodontic Consultant, Craniofacial Center University of California, Los Angeles
1995 - 2001	Tenure-Track Assistant Professor

1995 - 1999	UCLA School of Dentistry Clinic Director, Section of Orthodontics Clinic University of California, Los Angeles
1995 - 2021	Attending, UCLA Craniofacial Clinic
1996 - 2021	California Children Services Consultant
1996 - 1997	Clinic Co-Director, Orthodontic Venice Clinic (Dental Health Outreach Program for minorities) University of California, Los Angeles
2000 - 2021	Joint Professor Division of Plastic Surgery, Department of Surgery University of California, Los Angeles
2001 - 2006	Tenured Associate Professor University of California, Los Angeles
2001 - 2018	Research Director, Section of Orthodontics University of California, Los Angeles School of Dentistry
2003 - 2019	Chair, Section of Orthodontics University of California, Los Angeles School of Dentistry
2004 - 2018	Thomas R Bales Endowed Chair University of California, Los Angeles School of Dentistry
2005 - 2021	Joint faculty appointment Department of Bioengineering School of Engineering, UCLA
2006 - 2021	Academic Senate Full Professor University of California, Los Angeles School of Dentistry
2008 - 2021	Joint Professor Department of Orthopedic Surgery, School of Medicine, UCLA
2009 - 2021	Member, California NanoSystems Institute, University of California, Los Angeles
2011 - 2014	Division Chair, Division of Clinical Specialties (Endodontics, Pediatric dentistry, Periodontics, and Orthodontics) University of Los Angeles, California School of Dentistry,
2014 - 2019	Division Chair, Division of Growth and Development University of Los Angeles, California School of Dentistry
2020-	Adjunct Professor Forsyth Institute, Cambridge, Massachusetts

**Education:**

1991 D.M.D.	Harvard School of Dental Medicine, MA <i>Magna cum laude</i>
1994 D.Med.Sc.	Harvard School of Dental Medicine, MA (Recognized by N.I.H. as equivalent to Ph.D)
1994 Orthodontics	Harvard School of Dental Medicine, MA

### **Postdoctoral Training:**

1991 - 1994	Research Fellow and Clinical Residency in Orthodontics Harvard School of Dental Medicine
1990 - 1994	Postdoctoral Training in Molecular Biology Harvard School of Dental Medicine

### **Licensure and Certification:**

1988	National Dental Board Part I
1990	National Dental Board Part II
1990	North East Regional Board
1990	Massachusetts Dental License
1994	Special Permit California Dental Board
2003	California Dental License
2007-	Board certification, American Board of Orthodontists

### **Major University Committee Appointments:**

1994 - 1998	Chair, Admissions Committee Section of Orthodontics, UCLA
1998 - 2020	Admissions Committee Section of Orthodontics, UCLA
1998 - 1999	Admissions Committee UCLA School of Dentistry
1999	Space Allocation Committee UCLA School of Dentistry
1999 - 2002	Research Advisory Committee UCLA School of Dentistry
2000	Oral Biology Tenure Faculty Search Committee UCLA School of Dentistry, UCLA
2000	Oral and Maxillofacial Surgery Tenure Faculty Search Committee School of Dentistry
2000	Sarnat Endowed Chair Professor Search Committee Division of Plastic Surgery, UCLA
2000	FTE Professor Search Committee Department of Surgery, UCLA
2001	Chair, Adjunct Assistant Professor Search Committee Section of Oral and Maxillofacial Surgery, UCLA
2001- 2004	Academic Research Committee

2001-2004	UCLA School of Dentistry APA (Appointment, Promotion and Appraisal) Committee
2001-2004	UCLA School of Dentistry Chair, Admissions Committee
2002	Section of Orthodontics, UCLA Pediatric Dentistry Chair and tenure Faculty Search Committee,
2002	Oral Biology Adjunct Assistant Professor Search committee
2002	Oral Biology Tenure Faculty Search Committee
2002	Orthodontics Tenure Track Faculty Search Committee
2003- 2004	Committee, Pediatric/orthodontic Program Section of Orthodontics and Section of Pediatric Dentistry, UCLA
2003	Faculty Executive Committee, UCLA School of Dentistry
2004-2007	MILA Committee UCLA School of Dentistry
2004	Oral Biology Assistant Professor Search Committee
2004	UCLA Out-Reach Venice Clinic, Clinic Director Search Committee
2005-	UCLA School of Dentistry 30 Million Endowment Campaign, Committee Member
2007	University Tenure Promotion Ad Hoc Committee
2007-2013	APA Committee, UCLA School of Dentistry
2013	University Clinical Trial Task Force Committee for the Vice Chancellor
2013	Continuing Education Advisory Committee, UCLA School of Dentistry
2013-2015	School of Dentistry Representatives for the Legislative Assembly Committee
2014-2017	APA Committee, UCLA School of Dentistry

### **Honors and Recognition:**

1991	<i>Magna cum laude</i> , Harvard School of Dental Medicine
1991	Gold Award, Harvard Odontological Society
1991	Finalist, E. H. Hatton Award Competition, AADR
1993	Recipient of Moorrees Research Award, Harvard Orthodontic Society
1995	Biomedical Research Award, American Association of Orthodontists
1995	Academic Senate Research Award
1996	Biomedical Research Award, American Association of Orthodontists
1996	Academic Senate Research Award
1996	Basic Science Research Award, Cleft Palate Foundation
1997	Clinical Research Seed Grant Award,

1997	Jonsson Cancer Center Foundation Cancer Research Seed Grant Award, American Cancer Society
1997	Outstanding Faculty Career Development Award, University of California Regents
1997	Biomedical Research Award, American Association of Orthodontists
1997	Academic Senate Research Award
1998	Willie and Early Shepard Distinguished Faculty Award American Association of Orthodontists
1999	Dean's Distinguished Scientist and Lecturer, UCLA School of Dentistry University of California, San Francisco
1999	Biomedical Research Award, American Association of Orthodontists
1999	Biomedical Research Award, American Association of Orthodontists
2001	Biomedical Research Award, American Association of Orthodontists
2002	Best Faculty Award UCLA Orthodontic Alumni association
2007	Fellow, American Dental Education Association Leadership Institute
2011	US Airforce recognition for excellence of service in regenerative medicine for our research team
2012	US Navy recognition for excellence of service in regenerative medicine for our research team
2018	International Space Station (ISS) Innovation Award For Biology and Medicine for Development of NELL-1 Bone-Growth Systemic Therapy American Astronautical Society
2022	Executive Board member International Orthodontics Foundation ( <a href="https://www.iofglobal.org/">https://www.iofglobal.org/</a> )

**Activities in Scholarly and Professional Societies:**

1999	Chair for the Advances in Clinical Sciences Symposium, American Association of Orthodontists Convention
1999	Ad Hoc Reviewer, Osteoporosis Foundation, Michigan University
2000	Reviewer for the Intramural Seed Grant School of Dentistry University of California, Los Angeles
2002-	Reviewer for the NIH/NIDRC and 3M Wound Healing Grant



2002- Reviewer for the Intramural Seed Grant  
School of Dentistry  
University of California, Los Angeles

2003- Reviewer for the Kentucky Experimental Program to stimulate  
Competitive Research Award

2005 Mentor, the Hatton Award First Prize Postdoc Category  
International Association of Dental Research

2005 Mentor, the 1<sup>st</sup> Place Winner of the Southern California Biomedical  
Engineering Society Conference

2006 - NIH/NIDCR Ad Hoc Grant review Committee  
(Special Emphasis Panel)

2007 Fellow, American Dental Education Association Leadership Institute

2007-2009 NIH/NIDCR RFA grant Reviewer 'Translational Application of  
Gene Silencing Strategies to Oral and Craniofacial Disorders' RFA

2007-2008 NIH NIBIB Review Panel: Enabling Technologies for Tissue  
Engineering and Regenerative Medicine

2009 NIH NIDCR Review Panel: RFA-DE-09-001 and RFA-DE-09-002  
Harnessing inflammation for reconstruction of oral and  
craniofacial tissues

2009 NIH, National Institute of Biomedical Imaging and Bioengineering  
panel to review American Recovery and Reinvestment Act (ARRA)

2010 NIH SBIR MOSS (K11) Review Panel

2011 NIH NICHD Review Panel RFA -HD-10006 PO1 developmental  
mechanisms of Human Structural Birth Defects

2011 NIH/NIDCR MOSS Special Emphasis Committee

2011 NIH/NIAM Ad Hoc Musculoskeletal Tissue Engineering (MTE)  
Review Panel

2011 Mentor, the Hatton Award First Prize PhD Category  
American Association of Dental Research

2011 Mentor, the Colgate Research Award  
International Association of Dental Research

2011 Mentor, Young Investigator Award,  
The 33rd Annual Meeting of the American Society for Bone and  
Mineral Research

2011 Mentor, Surgical Forum/Excellence in Research Award  
The 97th Annual Clinical Congress, American College of Surgeons

**2012- Guest Professor, School of Stomatology, Peking University, China**

2012 NIH Special Emphasis Panel, ZRG1 MOSS-S

2012 NIH Musculoskeletal Tissue Engineering (MTE) R01 Study Section

2013 NIH Musculoskeletal Tissue Engineering (MTE) R01 Study Section

2013 NIH Special Emphasis Panel, ZRG-1 MOSS CO2 R01 Study Section

2013 NIH/NIDCR Special Emphasis Panel on SBIR/STTR MOSS ZRG-1 K  
(11)

2013 Mentor, Young Investigator Award. Winner of the International  
Investigator Award. Annual American Society of Bone and Mineral  
Research Meeting

2014	NIH/NIDCR Special Emphasis Panel on SBIR/STTR MOSS ZRG-1 K (11)
2014	Mentor, the Hatton Award Second Prize PhD Category American Association of Dental Research
2014	Mentor, of Best Pediatric / Developmental Biology Abstract First Place Outstanding Medical Student Award Annual Academic Surgical Congress
2015	NIH/NIDCR Special Emphasis Panel on SBIR/STTR MOSS ZRG-1 K(11)
2015	NIH/NIDCR Oral Dental and Craniofacial Sciences (ODCS) R01 Study Section
2015-2016	President, Southern California Section American Association of Dental Research
2015-2024	Planning and Awards Review Committee (PARC) American Association of Orthodontists Foundation
2016	NIH/NIAMS Special Emphasis Panel MOSS S (02) Study Section
<b>2016-2019</b>	<b>Visiting Professor, School of Stomatology, Zhejiang University, China. Provincial “Thousand Talents Program”</b>
2017	Grant Reviewer, Medical Research Council, London UK
2017	NIH/NIDCR D5R Study Section
2019	NIH/NIDCR Oral Dental and Craniofacial Sciences (ODCS) R01 Study Section
2019	NIH/NIDCR DSR Member Conflict Study Section
2019	External Reviewer for UAB University-Wide Interdisciplinary Research Center (UWIRC) Program.
2022-	Chair, Research Committee, the International Orthodontics Foundation
2023	Chair, Research Grant Review Committee for 2023, the International Orthodontics Foundation.

**Professional Organizations:**

American Association of Cell Biology  
American Association of Orthodontists  
American Association of Dental Research  
American Association for the Advancement of Science  
American Association of Bone and Mineral Research

**Key Industrial Leadership and Experience:**

**Bone Biologics Corp (NASDAQ:BBLG)**- Developer of orthobiologic products for domestic and international spine fusion markets and currently approved for multicenter clinical trials in Australia. The company listed on NASDAQ in 2021.

Roles: Inventor of the platform technology: NELL-1, Founder and former Scientific Advisory Board Member

Key role in closing initial 3M round, building initial company structure, and further assisting in raising over \$20 M. Critical role in planning for FDA IND.

**Scarless Laboratories, Inc. and Saint Therapeutics** - Developer of scar reduction and tissue repair biologics. Currently in FDA Clinical Phase 2A trials.

Roles: Inventor of the platform technology, Founder and Executive Chief Science Officer

Key role in raising over \$14M USD from NIH Small Business Innovation Research programs as the senior investigator and in parallel \$6M USD from the private sector

Administrative role in building company structure, recruiting senior administrative members and senior consultants.

Critical role in FDA IDE approval and follow on Clinical Phase 1 and 2 Phase 2A trials.

Senior decision maker in business development, strategic planning and negotiation

**Gradient Orthodontic, Inc.** - Developer of advanced 3D printed biomaterials for the dental industry.

Roles: Founder, Board Member, and Chief Clinical Officer

Critical role in raising over \$3.1M USD in 2020 from a world renown private equity fund and major dental enterprises for the initial seed money.

Provided expertise in 3D imaging, printing, and biomaterials for orthodontic application.

**Angel Aligner (<https://www.angelaligntw.com/>)** – the world’s 2nd largest aligner company

Role: Senior Advisor and KOL

Key role in advising the technology, clinical development, and strategic planning for the global consumer market. Assisting IPO in 2021. Assisted the company in growing from \$400M USD in valuation in 2017 to over \$6B USD in its market CAP in 2021.

**CareCaptial Private Equity Fund (<https://www.carecapitalpartners.com/>)**. An investment and operating group focusing on global dentistry and oral health. Managing over \$8B USD in assets. It is one of the largest global dental PE funds.

Role: Senior Advisor and KOL

As a senior consultant, I provide expert opinions and key role participating in valuation, merger and acquisition in dental companies, hospital, and DSO. Since 2017, I helped the PE fund grow from 200M in assets to 10B.

I advise on corporate social responsibility and sustainability. I work with the managing partners to establish the International Orthodontics Foundation with the goal to “unite and inspire the global orthodontic community for the next decade.” Under the foundation, we are providing research grants and free symposiums internationally without exclusion.

**Huizhou Stomatology Hospital, China.** The largest dental hospital in the Canton province, China. A total of over 216 dentists and 10,2000 patient-visits in 2021.

Role: Board member

As a board member, my primary contribution and task are to build the corporate culture (social responsibility, sustainability, and commitment) by establishing board capability and ESG governance mechanisms. For example, I provide expert guidance for digitizing the multi-specialties treatment planning and quality assurance, and the use of these tools for strategic planning on the expansion of outreach clinics to the surrounding under-privileged districts. I advise and help to plan multi-disciplinary treatments for children with craniofacial needs

### **Editorial and Reviewing Service to Scholarly Publications:**

1994	Reviewer for the Oral Archives
1997	Reviewer for the International Journal of Oral Biology
2000-	Reviewer for Plastic and Reconstructive Surgery
2001-	Reviewer for the American Journal of Orthodontics and Orthopedics
2001-	Reviewer for Journal of the Angle Orthodontic Society
2002-	Reviewer for the Journal of Dental Research
2003-	Reviewer for Bone Journal
2003-	Reviewer for the Journal of Orthopedic Research
2001	Reviewer for the Biochimica et Biophysica Acta
2003-	Reviewer for the Tissue Engineering
2004-	Reviewer for the Proceedings of National Academy of Sciences
2007-	Reviewer for American Journal of Pathology
2008-	Reviewer for the Tissue Engineering
2010-	Reviewer for the Proceedings so f National Academy of Sciences
2010-	Reviewer for the Developmental Biology
2010-	Reviewer for the Journal of Bone and Mineral Research
2011-	Reviewer for PlosOne
2011-	Reviewer for Nature Medicine
2014	Reviewer for Genetic Testing and Molecular Biomarkers
2015	Reviewer for Genes and Diseases
2015	Reviewer for Journal of Biomedical Materials Research
2015	Reviewer for Genetic Testing and Molecular Biomarkers
2016	Reviewer for Biomaterial
2016	Reviewer for Stem Cell
2016	Reviewer for Scientific Report
2016	Reviewer for Laboratory Investigation
2017 2019	Reviewer for the American Journal of Orthodontics and Orthopedic
2023	Associate Editor for the Progress in Orthodontics ( <a href="https://progressinorthodontics.springeropen.com/">https://progressinorthodontics.springeropen.com/</a> )

### **Past Consulting Activities:**

2000 - 2001	Ad Hoc Medical and Research Advisor
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	Smile Train Foundation
2001	TV interview by TVBS station health network on orthodontic and craniofacial problems in children
2003	TV interview by TVBS station health network on orthodontic and craniofacial problems in children
2005	Consultant for Omelveny& Meyers LLP
2006	Consultant for the Silverpoint Investment
2019-	Senior Consultant, CareCapital Private Equity Fund ( <a href="https://www.carecapitalpartners.com/">https://www.carecapitalpartners.com/</a> ).

### **Teaching Experience:**

#### *Course Chair*

1994-2021	Literature Review for Orthodontic Residents DS308.06 a, b, c, & d
1994-2021	Postdoctoral Orthodontic Clinic CL308.03/07
1994 – 2000	Introduction to Orthodontics DS492 a & b Craniofacial Osteology DS307.17
1996-2020	Craniofacial Anomalies DS308.14 a, b, &c
1996-1997	Clinic Co-Director, Orthodontic Venice Clinic CL308.03 a, b, c &d
1997-2004	Predoctoral Orthodontic Clinic CL403.08 a, b, c, &d (Clinic Co-Chair)
1999 - 2006	Introduction to Orthodontics Laboratory DS492 c (Co-Chair)
2000 - 2021	Research Methodology DS308.89 a, b, c, & d (Co-Chair)

#### *Course Lecturer*

1994-1996	Predoctoral Orthodontic Clinic CL403.08 a, b, c, & d
1994-1998	Research Methodology DS308.89 a, b, & c
1994-2021	Attending for the Craniofacial Clinic, DCL308.14 a, b, c, & d. Division of Plastic Surgery, Department of Surgery
1994- 2021	Advanced Orthodontic Seminar DS308.06 a

### **Community Services at UCLA:**

1995 - 2021	Attending, UCLA Craniofacial Clinic
1996 - 2021	California Children Services Consultant

### **Research Interests:**

Molecular mechanism of craniofacial anomalies - specifically craniosynostosis  
Molecular mechanism of adult scar vs. fetal scarless wound healing  
Tissue engineering and regeneration

### **Novel Drug Research and Development Highlights (two novel biologic drug discoveries from bench to clinical trials)**

## **Musculoskeletal Novel Biologics - NELL from discovery to approval for clinical trial**

1. First to discover the function of Nell-1 in bone regeneration (please see Section in Patents)
2. Winner of the 2018 International Space Station Innovation Award – Biology and Medicine for Development of NELL-1 Bone-Growth Systemic Therapy. Our team was invited by the Whitehouse-National Space Council (NSpC) to attend a special round table session in Washington, DC at the White House Eisenhower Executive Office Building on Monday, October 29, 2018. The goal of the meeting is to get bright minds together in one room to establish a dialogue, bridge gaps, and leave the NSpC with some actionable perspective that they can use to formulate a national microgravity research policy
3. Founder of Bone Biologics <http://bonebiologics.com/investor-relations/news-releases/>. Bone Biologics Corp. (OTCQB:BBLG), a developer of orthobiologic products for domestic and international spine fusion markets, today has announced that it received Human Research Ethics Committee (HREC) approval on March 20, 2019, for the first center of a multicenter pilot clinical trial to evaluate NB1 (NELL-1/DBX®) in 30 patients in Australia. The pilot study will evaluate the safety and effectiveness of NB1 in adult subjects with degenerative disc disease (DDD) at one level from L2-S1, who may also have up to Grade 1 spondylolisthesis or Grade 1 retrolisthesis at the involved level who undergo transforaminal lumbar interbody fusion (TLIF).
4. One of our papers "High Doses of Bone Morphogenetic Protein 2 Induce Structurally Abnormal Bone and Inflammation In Vivo" is one of the most cited papers in Tissue Engineering. It provides the one of the first evidence of the adverse effect of BMP2, the most used biologics in orthopedics for bone regeneration. Here is the link: <https://www.liebertpub.com/action/showMostCitedArticles?journalCode=tea>

## **Skin Regenerative Novel Peptide drug– FMOD novel peptide drug to reduce wound scarring from discovery to FDA Phase II trial**

First team to discover the novel FMOD peptide function in scar reduction and skin regeneration (Please see Section in Patents). Founder of Scarless Laboratories to bring this invention to FDA clinical trials.

<https://cnsi.ucla.edu/blog/2018/10/25/october-25-2018-scarless-laboratories-receives-fda-clearance-to-initiate-phase-iiia-trial-of-sli-f06-peptide-for-scar-reduction/>

FMOD peptide R&D was conducted for over 18 years. In 2018, IND was cleared by the FDA for Phase 1/2A clinical trials and we have successfully completed Phase 1 & 2A trial. Development of this drug was largely inspired by the patients we see in craniofacial clinic that oftentimes undergo multiple surgeries with suboptimal outcomes due to scarring. If successful, this is one of the first biologic peptide drugs invented at UCLA.

**A total of over \$25M USD competitive grants from my research laboratory/core group (as PI or key investigator)**

### **Active Grants and Funding:**

Contact: P.I.: Zhong Zhang  
NIH-NIDCR 2 R44DE026080-03

9/1/21 -8/31/24

Amount: \$3,357,296

Title: Novel peptide-impregnated hydrogel as a wound healing device.

Goal: To expedite and de-risk critical technical, regulatory/clinical, and business milestone activities that could impact or delay HA-SLI-F06 commercialization

Role: Investigator

Contact: P.I.: Leo Zhang; Co-I: Ting, Kang  
NIH-DIDDK 1 R44DK131648-01 (Fast-track SBIR grant)

9/1/21 -8/31/24

Amount: \$1,987,119

Title: Novel peptide for enhancing diabetic wound healing

Goal: To obtain the key preclinical efficacy and mechanism of action data for SLI-F06 as a repeatedly administered, locally applied therapeutic for diabetic wounds for expanding the clinical indication of SLI-F06.

Role: Senior Co-Investigator

Contact: P.I.: Chia Soo; Co-I: Ting, Kang  
NIH NIDCR 1 R01 DE029353-01A1

8/1/20 -7/31/25

Amount: \$2,374,135

Title: Dual roles of Nell-1 in craniofacial bones and brain through interaction with Cntnap4

Goal: To elucidate the novel interaction between Nell-1, a unique osteogenic protein with proven potency for bone regeneration, and its receptor, Cntnap4, a presynaptic membrane protein that has functional association with autism spectrum disorder (ASD).

Role: Co-Investigator

Contact: P.I.: Zheng, Zhong; Co-I: Ting, Kang  
NIH NIDCR 2SB1DE026972-04A1

Date: 9/11/2017-8/31/2022

Total award: \$2,844,274

Title: Anti-scar peptide for cleft lip repair

Goal: To accelerate the commercialization of FMOD-derived peptide on scar reduction

Role: Co-Investigator

### **Inactive Grants and Funding:**

Contact: P.I.: Jin Hee Kwak; Mentor: Ting Kang  
NIH/NIDCR K08 DE026805-01

Mentored Clinical Scientist Research Career Development Award

Date: 4/1/2017 – 3/30/2022

Total award: \$885,000

Title: Novel Systemic PEGylated NELL-1 Therapy for craniofacial osteoporosis

Goal: To study PEGylated NELL-1 as a systemic therapeutic agent for craniofacial osteoporosis.

Role: Mentor

Contact: P.I.: Wu, Benjamin

American Association of Orthodontists Foundation Center grant

Date: 7/01/2018 – 6/30/2021

Total award: \$75,000

Title: Standard Characterization of Clear Orthodontic Aligners

Goal: To establish the very first academic center to set the standard and to shared independently tested, reliable test data on commercial clear aligners for AAO members' information.

Role: Co-I

Contact: P.I.: Aron James (Johns Hopkins)

Date: 7/01/2018 – 6/30/2021

American Cancer Society

Total award: \$792,000

Title: NELL-1 in osteosarcoma

Goal: To investigate the role of Nell-1 in anticancer therapy

Role: Subcontract P

Contact: Trainee: James, Aaron W; Mentor: Ting, Kang

NIAMS K08 AR068316

Mentored Clinical Scientist Research Career Development Award

Date: 07/15/2015-06/30/2020

Total Award: \$610,623

Title: NELL-1 isoforms for the systemic treatment of osteoporosis

Goals: To determine the therapeutic effects of NELL-1 isoforms in gonadectomy induced bone loss.

Role: Mentor

Contact: P.I.: Soo, Chia; Co-I: Ting, Kang

NIAMS 1R01 AR068835-01A1

Date: 9/17/2015-8/31/2020

Total award: \$2,564,124

Title: NELL-1's functional role in cartilage regeneration

Goal: To study the effect of NELL-1 in cartilage regeneration.

Role: Co-Investigator

Contact: Trainee: Christine Hong; Mentor: Ting, Kang

NIH/NIDCR K08 DE024603-01

Mentored Clinical Scientist Research Career Development Award

Date: 8/1/2014-7/31/2019

Total Award: \$681,750

Title: Promoting DMSC-Mediated Craniofacial Regeneration by Estrogen

Goal: To investigate pro-osteogenic effects of estrogen in DMSCs *in vitro* and *in vivo* and to apply this knowledge to foster the application of DMSCs in multiple clinical settings.

Role: Mentor



Contact: P.I.: Zheng, Zhong; Co-I: Ting, Kang  
NIH/NIDCR R44 DE026080  
Date: 4/1/2016 – 3/31/2019  
Total Award: \$1,404,638  
Title: Novel Peptide-Coated Suture for Cleft Lip and Palate Repair  
Goal: The major goal of this project is to create a bioactive suture device that promotes cell migration and collagen cross-linking to increase wound tensile strength  
Role: Co-Investigator

Contact: P.I.: Ting, Kang  
NIAMS 1R01 AR066782-01  
Date: 8/11/2014-7/31/2019  
Total award: \$2,223,732  
Title: NELL-1 Systemic Therapy for Osteoporosis  
Goal: To study the effect of Nell-1 in osteoporosis.  
Role: PI

Contact: P.I.: Soo, Chia; Co-I.: Ting, Kang  
NIAMS R01 AR061399-01A1  
Date: 7/1/2012-5/31/2019  
Total award: \$1,925,000  
Title: Wnt and PPAR $\gamma$  Signaling in Nell-1 and BMP2 Mediated Bone Regeneration  
Goal: To determine the role of Wnt and PPAR signaling in Nell-1 and BMP2 bone formation.  
Role: Co-Investigator

Contact: P.I.: Aron James (Johns Hopkins)  
Date: 7/01/2015 – 6/30/2017  
OREF / MTF  
Total award: \$98,000  
Title: Combining NELL-1 and Sonic Hedgehog for improved bone regeneration  
Goal: To investigate the function of Nell-1 with different signaling pathway.  
Role: Subcontract P

Contact: Kwak, Jin Hee; Primary mentor: Ting, Kang  
Orthodontic Faculty Development Fellowship Award  
American Association of Orthodontists Foundation (AAOF)  
Date: 7/1/2017 – 6/30/2018 (final renewal year)  
Total Award: \$20,000  
Title: Patient-oriented Craniofacial Research  
Goals: (a) aid in enhancing the quality of borderline-surgical or surgical orthodontic patient care, and (b) expand bone biological knowledge and support research training for post-graduate orthodontic education requiring M.S. thesis.  
Role: Primary mentor

Contact: P.I.: Soo, Chia; Co-I: Ting, Kang  
GA-2014-154

Center for the Advancement of Science in Space, Inc. (“CASIS”)  
National Aeronautical and Space Administration (“NASA”)  
Date: 12/1/2014-5/31/18  
Total award: \$300,000  
Title: Systemic Therapy of NELL-1 for Spaceflight-Induced Osteoporosis  
Goal: To develop NELL-1 systemic therapy for spaceflight-induced osteoporosis.  
Role: Co- Principal Investigator

Contact: P.I.: Zeng, Zhong; Co-I: Ting, Kang  
NIAMS SBIR R44 AR064126  
Date: 9/24/2015-8/31/2017  
Total award: \$1,456,834  
Title: A Novel Anti-scar Peptide for Cutaneous Wound Repair  
Goal: To develop a peptide for scar reduction – preliminary safety studies.  
Role: Co-Investigator

Contact: Trainee: Aaron W James; Co-I: Ting, Kang  
OREF/MTF Research Grant  
Date: 7/1/2015-6/30/2017  
Total Award: \$98,000  
Title: Combining NELL-1 and Sonic Hedgehog for improved bone regeneration  
Goals: To optimize the combination therapeutic NELL-1 + SHH for calvarial bone repair.  
Role: Co-Investigator

Contact: Kwak, Jin Hee; Primary mentor: Ting, Kang  
Orthodontic Faculty Development Fellowship Award  
American Association of Orthodontists Foundation (AAOF)  
Date: 7/1/2015 – 6/30/2017 (renewed annually)  
Total Award: \$40,000  
Title: Patient-oriented Craniofacial Research  
Goals: (a) aid in enhancing the quality of borderline-surgical or surgical orthodontic patient care, and  
(b) expand bone biological knowledge and support research training for post-graduate orthodontic education requiring M.S. thesis.  
Role: Primary mentor

Contact: International P.I.: Wong, Hee Kit; International Co-PI: Ting, Kang  
Funding Agency: NMRC Singapore  
Collaborating university: National University of Singapore  
Date: 4/2014 - 4/2017  
Total Award: SG\$997,000 (\$747,750)  
Title: Bone regeneration using NELL-1, a non-BMP2 osteoinductive growth factor, delivered by novel carriers in a lumbar spinal fusion model  
Goal: To introduce a new generation of non-BMP based bone graft substitute consisting of NELL-1 matched with an optimal carrier that will significantly improve the clinical outcome of spinal fusion procedure.  
Role: International Co-PI

Contact: P.I.: Zheng, Zhong; Co-I: Ting, Kang  
NIDCR R44 DE024692  
Date: 9/15/14–9/30/16  
Total Award: \$1,542,306  
Title: Anti-scar peptide for cleft repair  
Goal: To study the effect of FMOD peptide in cleft lip hypertrophic scar.  
Role: Co-Investigator

Contact: P.I.: Ye-Hua Gan; International Co-PI: Ting, Kang  
2013DFB30360  
Funding Agency: International Sciences and Technology Cooperation Program, China  
Collaborating university: Peking University, China  
Date: 4/1/2013-3/31/2016  
Total Award: \$1,650,000  
Title: The regulation of osteogenic genes in perivascular stem cells for mandibular bone regeneration  
Goal: To investigate osteogenic genes regulation in perivascular stem cells for mandibular bone regeneration.  
Role: Co-Investigator

Contact: P.I.: Lee, Min; Co-I: Ting, Kang  
NIH/NIAMS 1 R01 AR060213-01  
Date: 7/25/2011–6/30/2016  
Total Award: \$1,925,000  
Title: Combined effect of noggin suppression and Nell-1 on bone regeneration  
Goal: To study NELL-1 with Noggin function.  
Role: Co-Investigator

Contact: P.I.: Pang, Shen; Co-I: Ting, Kang  
NIAMS SHIFT SBIR R43 AR064126-01  
Date: 09/01/2013 – 07/31/2015  
Total award: \$397,925  
Title: A novel anti-scar peptide for cutaneous wound repair  
Goal: To develop a peptide for scar reduction – preliminary safety studies.  
Role: Co-Investigator

Contact: Lee, Kiho; Primary mentor: Ting, Kang  
Orthodontic Faculty Development Fellowship Award  
American Association of Orthodontists Foundation (AAOF)  
Date: 7/1/2014 – 6/30/2015  
Total Award: \$20,000  
Title: Orthodontic Faculty Development Fellowship Award  
Goals: Orthodontic junior faculty development  
Role: Primary mentor

Contact: Hong, Christine; Primary mentor: Ting, Kang  
Orthodontic Faculty Development Fellowship Award  
American Association of Orthodontists Foundation (AAOF)  
Date: 7/1/2011 – 6/30/2014 (renewed annually)  
Total Award: \$60,000  
Title: Orthodontic Faculty Development Fellowship Award  
Goals: Orthodontic junior faculty development  
Role: Primary mentor

Contact: P.I.: Lee, Min; Co-I: Ting, Kang  
NIH/NIDCR R21 DE021819-01  
Date: 4/1/2012–3/31/2015  
Total award: \$308,000  
Title: Biomimetic Scaffold Delivering Osteogenic Molecules for Alveolar Bone Engineering  
Goal: To develop a biomimetic scaffolding system for controlled local delivery of osteogenic molecules to maximize alveolar bone regeneration.  
Role: Co-Investigator

Contact: P.I.: Peault, B.; Co-I: Ting, Kang  
CIRM TR2-01821  
Date: 12/1/2010–10/30/2013  
Total award: \$5,400,959  
Title: Harnessing native fat-residing stem cells for bone regeneration  
Goal: Study role of pericytes in bone formation.  
Role: Co-Investigator

Contact: P.I.: Ting, Kang  
NIH/NIDCR R01 DE016107-01 (with one year no cost extension)  
Date: 7/1/2004–8/31/2010  
Total award: \$1,800,000  
Title: Nell-1, a Cbfa1 Downstream Target, in Bone Formation  
Goal: To study NELL-1 interaction with Cbfa1  
Role: PI

Contact: P.I.: Ting, Kang  
NIH/NIDCR R01 DE016107-01 (Competitive supplement to above grant)  
Date: 10/1/2009–9/30/2011  
Total award: \$413,087  
Title: Nell-1, a Cbfa1 Down-Stream Target, in Bone Formation  
Goal: Study NELL binding protein  
Role: PI

Contact: P.I.: Ben, W.; Co-I: Ting, Kang  
UC Discovery California State and Industry  
Date: 7/1/2008–8/31/2010  
Total award: \$1,357,846

Title: Novel Growth Factor in Musculoskeletal Tissue Engineering  
Goal: Examine Nell-1 in cartilage tissue engineering.  
Role: Co-Investigator

Contact: P.I.: Soo, Chia; Co-PI: Ting, Kang  
NIH/NIDCR R21 DE0177711-01  
Date: 9/28/2007–8/31/2010  
Total award: \$448,250

Title: Comparative analysis of Nell-1 vs. BMPs in calvarial bone regeneration  
Goal: Explore the effects of NELL-1 or BMP Alone vs. NELL-1+BMP ON CELL proliferation, apoptosis, mineralization, osteoblast marker expression, and bone regeneration.  
Role: Co-PI

Contact: Aghaloo, Tara  
NIH Loan Repayment for Pediatric Research  
Date: 9/28/2007-8/31/2010  
Title: The Role of Nell-1 and BMP-2 in Rat Critical Sized Cranial Defects  
Goal: To investigate the function of Nell-1 and BMP-2 in rat critical sized cranial defects.  
Mentor: Ting, Kang; Awardee: Tara Aghaloo, MD, DDS

Contact: P.I.: Soo, Chia; Co-PI: Ting, Kang  
Department of the Army USAMRAA, Log Number 07128099  
Date: 3/1/2008–12/31/2011  
Total Award: \$1,998,514  
Title: Combining osteoinductive and antimicrobial therapies to improve healing of contaminated/infected segmental long bone defects  
Goal: To determine if adding antimicrobial nanocrystalline silver to Nell-1+BMP2 combo therapy can improve bone regeneration in infected wounds.  
Role: Co-PI

Contact: P.I.: Wang, Jeffrey C.; Co-PI: Ting, Kang  
UC Discovery grant  
Date: 1/1/2006–12/31/2007  
Total Award: \$416,834.85  
Title: Nell-1's Role in Spinal Fusion  
Goal: To study NELL-1's role in spinal fusion.  
Role: Co-PI

Contact: P.I.: Wang, Jeffrey C.; Co-PI: Ting, Kang  
Musculoskeletal transplant foundation  
Date: 7/1/2007–6/30/2008  
Total Award: \$125,000  
Title: Nell-1's Role in Segmental Defect Healing  
Goal: To study NELL-1's role in spinal fusion.  
Role: Co-PI

Contact: P.I.: Soo, Chia; Co-I: Ting, Kang  
NIH SBIR Phase I  
Date: 9/1/2005–8/31/2006  
Total Award: \$100,000  
Title: Nell-1 in Calvarial Defect Regeneration  
Goal: To study NELL-1 interaction with Cbfa1.  
Role: Co-Investigator

Contact: P.I.: Soo, Chia; Co-PI: Ting, Kang  
NIDCR R21 DE015118  
Date: 12/1/2003-11/30/2007  
Total Award: \$305,000  
Title: The Role of Fibromodulin in Scarless Repair  
Goal: To characterize the role of fibromodulin in wound healing  
Role: Co-PI

Contact: P.I.: Wong, David; Mentor: Ting, Kang  
UCLA Research Training Grant  
NIH/NIDCR DE007296-08  
Date: 7/2004-6/2010  
Total Award: \$223,622 per year  
Title: Nell-1 Induced Bone Formation in Calvarial Critical Size Defects  
Goal: To investigate the role of Nell-1 in bone formation in calvarial defects.  
Role: Mentor

Contact: P.I.: Ting, Kang  
March of Dimes Birth Defect Foundation, #6-FY02-163  
Date: 7/1/2002–6/30/2005  
Total Award: \$298,377 (2005-2006 No cost extension)  
Title: Characterization of NELL-1, a Candidate Gene Associated with Premature Suture Closure in Craniosynostosis  
Goal: To investigate the role of NELL-1 in Osteoblast and Calvarial Suture Formation.  
Role: PI

Contact: P.I.: Ting, Kang  
NIH/NIDCR R03 DE014649-01  
Date: 9/1/2002-8/31/2004  
Total Award: \$606,475  
Title: Mechanistic Role of NELL-1 in Premature Suture Closure  
Goal: To characterize *NELL-1* promoter.  
Role: PI

Contact: P.I.: Soo, Chia; Co-I: Ting, Kang  
NIH SBIR Phase I AR051620-01  
Date: 9/1/2004–8/31/2005  
Total Award: \$100,000

Title: Scarless wound Repair  
Goal: To study scarless wound healing.  
Role: Co-Investigator

Contact: P.I.: Ting, Kang  
NIH/NIDCR K23 DE000422 (with no cost extension)  
K23 Patient-oriented Research Development Award  
Date: 9/1/1999-8/31/2005  
Total Award: \$606,475  
Title: NELL-1 in Bone Formation and Suture Closure  
Goal: To investigate the role of Nell-1 in bone formation and suture closure.  
Role: PI

Contact: P.I.: Lorenz, P.; Mentor: Ting, Kang  
NIH/NIDCR 1 K08 DE000463-01  
K08 Mentored Clinical Scientist Research Career Development Award  
Date: 8/15/2001-7/31/2006  
Total Award: \$620,000  
Title: Isolation of Scarless Repair Genes for Cleft Therapy  
Goal: To achieve isolation of scarless repair genes for cleft therapy  
Role: Mentor

Contact: P.I.: Ting, Kang  
Plastic Surgery Education Foundation  
Smile Train/Plastic Surgery Education Foundation Cleft Initiative  
Date: 12/01/2002-11/30/2005  
Total Award: \$20,000  
Title: Fibromodulin in Fetal Scarless Wound Repair  
Goal: To study Fibromodulin in fetal scarless wound repair  
Role: PI

Contact: P.I.: Wong, David; Co-I: Ting, Kang  
NIH/NIDCR 5T32 DE007296  
Date: 9/1/1996 – 06/30/2012 (15 years)  
Total Award: \$9,452,000  
Title: UCLA DENTIST-SCIENTIST & ORAL HEALTH-SCIENTIST TRAINING PROGRAM  
Role: Co-Investigator

Contact: P.I.: Park, N.H.; Co-I: Ting, Kang  
NIH/NIDCR T32 DE07296  
Date: 9/1/1996-5/31/2003  
Total Award: \$1,472,305  
Title: UCLA Fundamental Clinical Research Training Program  
Role: Co-Investigator

Contact: P.I.: Ting, Kang

Research Opportunity Grant, UCLA School of Dentistry  
Date: 7/2001-7/2002  
Total Award: \$7,500  
Title: TGF- $\beta$  Modulate *NELL-1* Expression  
Role: PI

Contact: P.I.: Ting, Kang  
Research Opportunity Grant, UCLA School of Dentistry  
Date: 7/1999-7/2000  
Total Award: \$10,000  
Title: Tissue Engineered Dermis with Scarless Fetal Fibroblasts  
Role: PI

Contact: P.I.: Ting, Kang  
Dentistry Intramural Award, UCLA School of Dentistry  
Date: 6/2000-7/2001  
Total Award: \$7,500  
Title: Tissue Engineered Dermis with Scarless Fetal Fibroblasts  
Role: PI

Contact: P.I.: Ting, Kang  
UCLA Clinical Research Center /NIHCRC  
Date: 6/1999 - 7/2001  
Total Award: \$50,000  
Title: Translational Studies of *NELL-1* in Craniosynostosis  
Role: PI

Contact: P.I.: Ting, Kang  
UCLA Department of Surgery  
Date: 9/2000-8/2000  
Total Award: \$35,000  
Title: The Role of Fibromodulin in Fetal Scarless Wound Healing  
Role: PI

Contact: P.I.: Ting, Kang  
American Association of Orthodontists Foundation  
Date: 7/2001-7/2002  
Total Award: \$15,000  
Title: *NELL-1* Over-expression in Premature Suture Closure  
Goal: To construct *NELL-1* transgenic mice.  
Role: PI

Contact: P.I.: Ting, Kang  
Wunderman Family Foundation  
Date: 7/1/2000-7/1/2002  
Total Award: \$80,000



Title: The Role of Fibromodulin in Fetal Scarless Wound Healing  
Role: PI

Contact: P.I.: Ting, Kang  
Opportunity Research Grant, UCLA School of Dentistry  
Date: 9/1/1994-6/30/1999  
Total Award: \$50,000  
Role: PI

Contact: P.I.: Ting, Kang  
American Association of Orthodontists Foundation  
Date: 7/31/1995-7/31/1998  
Total Award: \$45,000  
Title: Differential Gene Expressions in Craniosynostosis  
Role: PI

Contact: P.I.: Ting, Kang  
Academic Senate Research Grant, UCLA  
Date: 9/1/1997-6/30/1998  
Total Award: \$5,000  
Title: Identification of *nel* Homolog Gene in Craniosynostosis  
Role: PI

Contact: P.I.: Ting, Kang  
National Institute of Health  
General Clinical Research Center - CAP supplement  
Date and cost of the entire project: 9/1/1998-6/30/2001; withdrew 9/2000  
Total Award: \$242,494  
Title: Clinical and Laboratory Studies of Bone Induction and Regulation for Craniofacial Anomalies  
Role: PI

Contact: P.I.: Ting, Kang  
Academic Senate Research Grant, UCLA  
Date: 7/1/1999-6/30/2000  
Total Award: \$2,100  
Title: Construction of NELL-1 Transgenic Mice  
Role: PI

Contact: P.I.: Ting, Kang  
Oral and Maxillofacial Surgery Foundation  
Date: 7/31/2000-7/31/2001  
Total Award: \$55,000  
Title: The Differential Gene Expression in Fetal Wound Healing  
Role: PI

Contact: P.I.: Ting, Kang

American Association of Orthodontists Foundation

Date: 7/31/1999–7/31/2000

Total Award: \$15,000

Title: The Role of NELL-1 in Calvarial Bone Formation and Cranial Suture Closure

Role: PI

Contact: P.I.: Park, No-Hee; Pilot Project P.I.: Ting, Kang

NIH/NIDCR DE10598

Date: 9/1/1995-7/31/2002

Total Award: \$5,834,879

Title: UCLA-King Drew Regional Research Center for Minority Oral Health

Role: Pilot Investigator

Contact: P.I.: Ting, Kang

Oral and Maxillofacial Surgery Foundation

Date: 7/31/1998-7/31/1999

Total Award: \$55,000

Title: The Characterization of *c49a* during Cell Growth and Proliferation

Role: PI

Contact: P.I.: Ting, Kang

Oral and Maxillofacial Surgery Foundation

Date: 7/31/1998-7/31/1999

Title: The Role of NELL-1 in Bone Formation

Role: PI

Contact: P.I.: Ting, Kang

American Association of Orthodontists Foundation

Title: Long Term Evaluation of Intraoral Osteogenesis Distraction

Date: 7/31/1998-7/31/1999

Total Award: \$15,000

Role: PI

Contact: P.I.: Ting, Kang

American Association of Orthodontists Foundation

Title: Differential Gene Expressions in Normal and Premature Closure of Sutures

Date: 7/31/1998-7/31/1999

Total Award: \$15,000

Role: PI

Contact: P.I.: Ting, Kang

American Cancer Society

Date: 1/1/1997-1/1/1999

Total Award: \$30,000

Title: The Characterization of *mda-7* during Wound Healing and Neoplastic Growth

Role: PI

Contact: P.I.: Ting, Kang  
The Wunderman Foundation  
Date: 1/1/1997-1/1/1999  
Total Award: \$200,000  
Title: The Differential Gene Expression of Wound Healing  
Role: PI

Contact: P.I.: Ting, Kang  
Academic Senate Research Grant, UCLA  
Date: 9/1/1995-6/30/1996  
Total Award: \$4,800  
Title: Differential Altered Gene Expression in Craniosynostosis  
Role: PI

Contact: P.I.: Ting, Kang  
Academic Senate Research Grant, UCLA  
Date: 9/1/1996-6/30/1997  
Total Award: \$5,835  
Title: Differential Molecular Mechanisms of Normal and Premature Cranial Suture Closure  
Role: PI

Contact: P.I.: Ting, Kang  
American Association of Cleft Lip and Palate  
Date: 7/31/96 -7/31/97  
Total Award: \$5,000  
Title: Differential Gene Expressions in Cranial Suture Development  
Role: PI

### **Research Mentorship for Faculty**

1998 - 1999	Howard Park, MD, DMD, Oral and Maxillofacial Surgeon, Division of Diagnostic and Surgical Sciences, UCLA Oral and Maxillofacial Surgery Foundation Research Training Grant
2001 - 2003	Clarice Law DMD, MS. Currently Associate Clinical Professor Section of Orthodontics, UCLA.
2003-2004	Chia Soo MD, FACS. Currently Professor Division of Plastic and Reconstructive Surgery, UCLA.
2004-	Xinli Zhang MD, PhD. Currently Adjunct full Professor Section of Orthodontics, UCLA.
2005	Tara Aghaloo MD, DDS. Currently Tenured Professor Section of Oral and Maxillofacial surgery, UCLA
2006-	Zhong Zheng, PhD. Currently Adjunct Associate Professor UCLA Dental School
2007	Steve Lu MD, Assistant Professor

	Pediatric Medicine, UCLA
2008-2010	Min Lee, PhD. Currently tenured Professor
2010-2013	Kiho Kyle Lee, Assistant Clinical Professor, Section of Orthodontics
2014-	Christine Hong, Assistant Professor, Section of Orthodontics UCLA (K08 mentor)
2015-	Aaron James, Currently Associate Professor, Pathology Johns Hopkins (K08 mentor)
2017-2020	Jin Hee Kwak, Adjunct Associate Professor, Section of Orthodontics, UCLA (K08 mentor)
2019-	Chenshuang (Monica) L, Assistant Professor. Dept of Orthodontics, School of Dental Medicine U Pennsylvania

**Research Mentorship for PhD students:**

2000-2003	Susan E Cheffetz, DDS, PhD "The Perceived Competence, Social Acceptance, and Behavioral Adjustment of Children with Craniofacial Anomalies" School of Public Health, UCLA
2000-	Steve Miao, DDS, MS, PhD "The Construction of NELL-1 Over-expression and Knock-out Mice." Oral Biology, School of Dentistry, UCLA
2002-	Sean Truong, DDS, PhD "Transcription Regulation of Nell-1" Oral Biology, School of Dentistry, UCLA
2004- 2007	Katie Cowan, PhD "Nell-1 in Bone Formation and Regeneration" Department of Bioengineering, UCLA School of Engineering
2007-2012	Ronald Siu, PhD "Nell-1 interaction with scaffolds" Department of Bioengineering, UCLA School of Engineering
2007-2010	Chen Feng, PhD UCLA Section of Orthodontics and Department of Biomedical Engineering "Bone Regeneration"
2007-2010	Xuan Zhou, MS, PhD PhD Program at Zhejiang University, China Chinese government exchange scholarship "Identification of Nell-1 Binding Proteins"
2007-2010	Weiwei Chen, MS, PhD

PhD Program at Zhejiang University, China  
Chinese government exchange scholarship  
“Primary Response Gene of Nell-1”

2008-2010      Hong Zhang, MS, PhD  
PhD Program at Sun Yat-Sen University, China  
Chinese government exchange scholarship  
“Lentiviral Therapy with Nell-1”

2008-2010      Wei Yin, MS, PhD  
PhD Program at Wuhan University, China  
Chinese government exchange scholarship  
“Wound Repair”

2010-2012      Yi Liu, MS, PhD  
PhD Program at Wuhan University, China  
Chinese government exchange scholarship  
“Bone Repair” and “Osteomyelitis”

2010-2012      Wei Yuan, MD, PhD  
PhD Program, Visiting China Orthopedic Surgery Attending  
Fudan University

2012-2016      Chenshuang Monica Li, DDS, PhD  
PhD Program at Peking University, China  
“The mode of action of NELL-1 in chondrogenesis”

2014- 2019      Jiayu Shi, DDS  
Combined PhD/Orthodontic residency at UCLA School of Dentistry  
“Systemic NELL-1 Therapy”

2014-2017      Mengliu Yu, DDS  
PhD Program at Zhejiang University, China  
Chinese government exchange scholarship  
“NELI-1’s Role in Skeletal Development Using Knock Down Mouse Model

2015-2016      Wenlu Jiang, DDS  
PhD Program at Sichuan University, China  
“Fibromodulin induced Tendon Repair”

2015-2017      Huichuan Qi, DDS  
PhD program at Jilin University, China  
“Effect of Nell-1 on cartilage homeostasis and endochondral ossification in  
postnatal period”

2015-2019      Justine Tanjaya, DDS, MS

Combined PhD/Orthodontic residency at UCLA School of Dentistry  
“Chemical Modification of Nell-1 for Systemic Therapy”

2015- Yao Chen, DDS, MS  
Combined PhD/Orthodontic residency at UCLA School of Dentistry  
“Fibromodulin-induced Scarless Repair”

2019- Luan Tran, MS  
“Effect of microgravity on skeletal tissues”  
PhD program at the UCLA School of Dentistry, Oral Biology

**Research Mentorship for Postdoctoral Fellows:**

2016-2017 Bharti Bisht, PhD  
Project Scientist  
“NELL-1 in inhibition of adipogenesis”

2008-2016 Jia Shen, PhD  
Postdoctoral Research Fellow  
“Bone and Cartilage Regeneration Using Stem Cells”

2011-2013 Jia Jian, PhD  
Postdoctoral Research Fellow  
“Wound Repair” and “Bone Regeneration”

2010-2012 Aaron James, MD, MD  
Postdoctoral Research Fellow  
“Adipose Derived Stem Cells”

2011-2013 Jie Jiang, PhD  
Postdoctoral Research Fellow  
“Bone and Cartilage Regeneration” and “Stem Cells”

2016-2021 Lulu Wang DDS PhD  
Postdoctoral Research Fellow  
“Fibromodulin in facia repair”

2016- Pin Ha DDS, PhD  
Postdoctoral Research Fellow  
“NASA RR5 Microgravity Induced Bone Loss”

2017-2018 Jiayi Li MD, PhD  
Postdoctoral Research Fellow and Orthopedic Resident

2017- Xiaoxiao Pang, MD, PhD

Postdoctoral Research Fellow  
“Mechanism of fibromodulin on myofibroblast apoptosis”

2018-2019            Xu Xheng DDS, PhD  
Lecturer

**Research Mentorship for dental and MS students and MS Thesis Committee for Orthodontic Residents:**

Duc T. Nguyen, DDS, UCLA, 1995  
"Evaluation of Facial Esthetics"

Gabriel M Mizraji, DDS, MS, UCLA, 1995  
"Skeletal Variability: Elliptical Fourier Descriptors"

John Wen, DDS, MS in Oral Biology, UCLA, 1996  
“Human *NELL-1* Expressed in Unilateral Coronal Synostosis”

Andy Kapust, DDS, UCLA, 1996  
"Orthopedic, Orthodontic, and Soft Tissue Effects of Maxillary Expansion and Protraction"

Stewart E. White, DDS, UCLA, 1996  
"Multivariate Prediction of Skeletal Class II Growth"

Kathy Mulcahey, DDS, UCLA, 1996  
"Comparing the Effect of a Dentin Bonding Agent on the Bond Strength of Acid-Etched and Abrasion-Etched Enamel"

Robert E Sutter, DDS, UCLA, 1996  
"Evaluation of Caucasian and African-American Female Profiles from the Nineties”

Keith MacDonald, DDS, UCLA, 1997  
"Evaluation of the Stability of Skeletal Changes Induced by Early Orthopedic Correction of the Class III Malocclusion"

Chad Smart, DDS, UCLA, 1998 (served as mentor)  
"The Effects of Etching and Saliva Contamination on the Shear Bonded Strength of Metallic Orthodontic Braces"

Douglas Harrington, DDS, UCLA, 1999 (served as mentor)  
"Quantitative Radiographic Assessment of Condylar Position Following Intraoral Distraction Osteogenesis"

Robert Sheffield, DDS, MS in Oral Biology, UCLA, 1998  
“Cephalometric Evaluation of the Craniofacial Complex”

Brian Mason, DDS, UCLA, 1999

"Differential Effects of Maxillary Protraction Face Mask Therapy with Rapid Palatal Expansion"

Jason Pair, DDS, UCLA, 1999

"Variability of Study Cast Assessment among Orthodontists"

Denise Prough, DDS, UCLA, 1999

"The Shear Bond Strength of Pre-Sandblasted Compared to Non-Sandblasted Orthodontic Brackets"

Clarice Law, DMD, MS in Oral Biology, UCLA, 2000 (served as mentor)

"Differential Gene Expressions During Rat Cranial Suture Closure"

Sophia Hu, DDS, MS in Oral Biology, UCLA, 2000 (served as mentor)

"*NELL-1* Enhances Mineralization in Fetal Calvarial Osteoblastic Cells"

Shamala L. Pizza, DDS, UCLA, 2000

"Analysis of Tongue Shapes during Vowel Production"

Tina Azin, DDS, UCLA, 2000

"A Comparison of the Treatment Effects of Tissue-Born and Tooth-Borne Palatal Expanders"

Peter D. Jeon, DDS, MS, UCLA, 2000 (served as mentor)

"Finite Analysis of Biomechanics"

Kathleen Hwuang, DDS, UCLA, 2000 (served as mentor)

"Distalization Force Mechanics with Pendulum Appliance"

Huy Do, DDS, MS in Oral Biology, UCLA, 2001

"C49 Gene in Wound Healing"

Ingrid Chen, MS in Biomedical Engineering, UCLA, 2002 (served as mentor)

"Gene Therapy Using NELL-1 Adenovirus"

Jeanne Wong, MS in Oral Biology, UCLA, 2004 (served as mentor)

"Construction of Recombinant Human Fibromodulin"

Samson Cheng, DDS, MS in Oral Biology, UCLA, 2006 (served as mentor)

"Effect of NELL-1 in Intemaxillary Disctration"

Katie Bales, DDS, MS in Oral Biology, UCLA, 2006

"Photoelastic Effect of Rapid Palatal Expansion in Cleft"

Nichole Hong, DDS, MS in Oral Biology, UCLA, 2007 (served as mentor)

"NELL-1 Induction in Adipose Stromal Cells"

Khoi Nguyen, DDS, MS in Oral Biology, UCLA, 2008 (served as mentor)



“Wound Repair”

Benjamin Walder DDS, MS in Oral Biology, UCLA, 2008 (served as mentor)

“Nell-1’s Role in Adipocyte Bone Formation”

Brett Grubb, DDS, MS in Oral Biology, UCLA 2008 (served as mentor)

“Nell-1’s Three Structure and Properties”

Hwa Sung Chae, DDS, MS in Oral Biology, UCLA 2009 (served as mentor)

“Nell-1 Binding Protein: Membrane Portion”

Julie Whang, DDS, MS in Oral Biology, UCLA 2010 (served as mentor)

“Delivery Carriers of NELL 1 Protein a Rat Spinal Fusion Model”

Kyle Lee, DDS, MS in Oral Biology, UCLA 2010 (served as mentor)

“Involvement of FAK Signaling Molecules and Integrin Beta 1 in the NELL 1-induced Osteoblastic Differentiation”

Paul Hong, DDS, MS in Oral Biology, UCLA 2011 (served as mentor)

“Biomechanical Effects of Maxillary Expansion on a Patient with Cleft Palate- A Finite Element Analysis”

Jin Hee Kwak, DDS, MS in Oral Biology, UCLA 2012 (served as mentor)

“NELL-1 Injection Maintains Long Bone Quantity and Quality in Ovariectomy-Induced Osteoporotic Senile Rat Model”

Silva Megerdichian, DDS, MS in Oral Biology, UCLA 2013 (served as mentor)

“Adipose-Derived Perivascular Stem Cells Heal Critical Size Mouse Calvarial Defects”

Ching-Yun Hsu, DDS, MS in Oral Biology, UCLA 2014 (served as mentor)

“Application of Silver Nanoparticle-based Materials in Orthopedic Surgery”

Juyoung Park, DDS, MS in Oral Biology, UCLA 2014 (served as mentor)

“Systemic Delivery of PEGylated NEL-like Molecule-1 (NELL-1) as A Novel Strategy for Osteoinductive Therapy.”

Michael Chiang, DDS, MS in Oral Biology, UCLA 2014 (served as mentor)

“Vertebral Implantation of NELL-1 Enhances Bone Formation in Osteoporotic Sheep”

Choon Chung, DDS, MS in Oral Biology, UCLA 2014 (served as mentor)

“Human Perivascular Stem Cell-based Bone Graft Substitute Induces Rat Spinal Fusion”

Elise Boersma, DDS, MS in Oral Biology, UCLA 2014 (served as mentor)

“Effects of a Novel Mini-Implant Assisted RPE in an Early and Late Treatment Group”

Justine Tanjaya, DDS, MS in Oral Biology, UCLA 2015 (served as mentor)

“Efficacy of Intraperitoneal Administration of PEGylated NELL-1 for Bone Formation”

Alireza Houfar, DDS, MS in Oral Biology, UCLA 2015 (served as mentor)

“Effect of NELL-1 Haplodeficiency on Articular Cartilage in Murine Hip Joints”

Yao Chen, DDS, MS in Oral Biology, UCLA 2016 (served as mentor)

“Fibromodulin and Its Derivative Reduce Scars in Adult Porcine Models”

Abdulaziz Mohammad, DDS, MS in Oral Biology, UCLA 2017 (served as mentor)

“Systemic Delivery of NELL-1 through Intraperitoneal Route for the Reversal of Osteoporosis in OVX-Mice”

Chirag Chawan, DDS, MS in Oral Biology, UCLA 2017 (served as mentor)

“Systemic Delivery of PEGylated NEL-like Molecule-1 (NELL-1) on Ovariectomy-Induced Bone Loss In Mice As A Novel Strategy For Osteoporosis Therapy”

Kevin Lee, DDS, MS in Oral Biology, UCLA 2017 (served as mentor)

“Fibromodulin Deficiency Alters Transforming Growth Factor- $\beta$  Expression during Mouse Wound Healing”

Bernard Boback, DDS, MS in Oral Biology, UCLA 2017 (served as mentor)

“Catabolic Effects of Nell-1 Haploinsufficiency on Articular Cartilage in Murine Knee Joints”

Mona Adams, DDS, MS in Oral Biology, UCLA 2017 (served as mentor)

“Allograft/DBM Use in Infected Bone Regeneration when Combined with Silver Nanoparticles and BMP2”

Richard Lim, DDS, UCLA 2017 (served as mentor)

“Systemic NELL-1 administration regenerates bone in osteoporotic mice”

Derek J. Frump, DDS, UCLA 2017 (served as mentor)

“Altered skeletal morphology resulting from *in vivo* micro-CT radiation exposure”

Eric Chen, DDS, MS in Oral Biology, UCLA 2018 (served as mentor)

Neurexin Family Member Contactin-Associated Protein Like-4 (CNTNAP4) is a specific cell membrane receptor of Neural EGFL Like 1 (NELL1)

Dan Pan, DDS, MS in Oral Biology, UCLA 2018 (served as mentor)

“Cyst-Like Osteolytic Formations in Recombinant Human Bone Morphogenetic Protein-2 (rhBMP-2) Augmented Sheep Spinal Fusion”

“3D Digital Integration of Orthodontic Smile Design”

Alan Nguyen, DDS, MS in Oral Biology, UCLA (served as mentor)

“Finite element method analysis and NELL-1 osteogenesis”

“Establishing a Quantitative Evaluation Criteria for the Mechanical Properties of Orthodontic Clear Aligners”

Kendrick Park, DDS, MS in Oral Biology, UCLA (served as mentor)  
“UCLA Amino Acid toothpaste clinical trials for patients with braces”

Diana-Beatrix Velicu, DDS, MS in Dentistry, MS in Oral Biology, UCLA (served as mentor)  
“Bisphosphonate-Modified PEGylated rNELL-1 (BP-NELL-PEG) systemic therapy protects against temporomandibular joint osteoarthritis in mice”

Jenny Jaehee Jeon, DDS, MS in Oral Biology, UCLA (served as mentor)  
“The adjunctive use of Botulinum toxin injections in the masseter in orthodontic patients”

Richard Song, DDS, UCLA 2019  
“Current Development of Biodegradable polymeric materials for biomedical application”

Tam Duong, DDS, MS in Oral Biology, UCLA (served as mentor)

Nuo (Stella) Dong, DDS, UCLA 2021  
“Development of TMJ-OA in Spaceflight and Treatment with BP-NELL-PEG Therapy”

**Research Mentorship for Medical Residents and students:**

1996-1998 David Sayer, MD, Surgery Resident  
Department of Surgery, New York University

1998-2000 Yubert Wang, MD, Surgery Intern  
Department of Surgery, New York University

1999-2001 Steve Beanes, MD, Surgery Resident, NIH Training Grant Fellowship  
Department of Surgery, UCLA

2000-2002 Cathy Dang, MD, Surgery Resident, The Wunderman Foundation Training Grant  
Fellowship  
Department of Surgery, UCLA

2004-2007 Steve Lu MD, Pre-neonatal Care Fellow, Cider Sinai, Los Angeles

2009- Janet Zara, MD  
Surgery Resident  
Department of Surgery, UCLA  
“Bone and Cartilage Regeneration Using Stem Cells”

2012-2015 Omar Velasco, MD  
Surgery Resident  
University of Maryland Medical Center  
“Wound Repair” and “Bone Regeneration” and “Stem Cells”

- 2014-2015 Mehdi Cheheltanan, MD  
International Medical Graduate  
“Wound repair” and “Bone Regeneration” and “Stem Cells”
- 2014-2015 Gregory LaChuaud  
Medical Student, Vanderbilt Medical Scholars Program  
“Bone Regeneration”
- 2014-2016 Frankie Kin San Wong  
UCLA Medical Student  
“Adipose Derived Stem Cells”
- 2014-2016 Erwin Kruger, MS  
UCLA Plastic Surgery Resident  
“Adipose Derived Stem Cells”
- 2014-2016 Alvaro Alvarez  
UCLA Medical Student  
“Adipose Derived Stem Cells”
- 2015-2016 Michael Ray DeLong, MD  
UCLA Plastic Surgery Resident  
“Wound repair”
- 2015-2016 Michael Uyeda, MD  
Department of Surgery, UCLA
- 2016- Emily A. Berthiaume  
UCLA Medical Student  
“PPARgamma inhibition and BMP-2 mediated bone repair”  
"Novel peptide-coated suture for cleft lip and palate repair"  
"Using an engineered galvanic redox system to generate positive surface potentials to promote osteogenic function."  
"Neural EGFL like 1 is a novel ligand for neurexin superfamily member contactin-associated protein like-4."  
"Neural EGFL like 1 (Nell-1) regulates cartilage maturation through runt-related transcription factor 3-mediated Indian hedgehog signaling."  
"Fibromodulin reduces scar formation in adult cutaneous wounds by eliciting a fetal-like phenotype."
- 2016- Kelsay Lipman  
UCLA Medical Student  
“Fibromodulin for tendon repair”
- 2017- Janell Holloway

UCLA Medical Student  
“Intramedullary delivery of PPAR $\gamma$  shRNA and PEGylated NELL-1 enhances osteogenesis.”

2018- Christos S. Harveles  
UCLA Medical Student  
“Silver nanoparticles in contaminated bone defects”

2018- Josiah Low  
UCLA Medical Student  
2019 Short Term Training Program (STTP) – Mentoship Program  
“Effects of Space Microgravity and BP-NP Treatment on Murine Knee and Temporomandibular Joints”

2018- Shannon Y. Wu  
UCLA Medical Student  
“Transgenic Nell-1 mice and sheep models”

2019- Timothy Liu  
UCLA Medical Student  
“Transgenic Nell-1 mice and sheep models”

**Clinical and Research Mentorship for Visiting Scholars (over 30):**

1997-1998 Jui-Hsien Yang, DDS, Associate Professor  
Department of Orthodontics, Cathy Hospital, Taipei, Taiwan

1998-1999 Fei-Ya Hu, DDS, Assistant Professor  
Shang Gung Memorial Hospital, Taipei, Taiwan

1998-2002 Xinli Zhang, MD, PhD, Associate Professor, Vice-Chair  
Dept. of Pathology, Third Military Medical University  
Chongqing, China

2000-2001 Chin-Yuh Yang, DDS, DSc, Professor and Chair  
Division of the Pedodontics & Orthodontics  
Tri-Service General Hospital  
National Defense Medical Center  
Taipei, Taiwan

2001-2002 Hao-Fu Lee, DDS, MS, Attending  
Department of Orthodontics  
Taipei Medical College  
Taipei, Taiwan

2002-2003 Tai-Ting Lai, DDS, MPH, Assistant Professor

Department of Orthodontics  
Mackay Memorial Hospital  
Taitung, Taiwan

- 2003-2004 Sang-Jin Sung, DDS, PhD  
Department of Orthodontics,  
Asan Medical Center,  
Seoul, Korea
- 2004-2005 Yu-Fen Qian, DDS, Vice Chair  
Department of Orthodontics  
Shanghai 9<sup>th</sup> Hospital  
Shanghai Second Medical University, China
- 2006 Min Zhu, DDS, PhD, Associate Professor  
Department of Orthodontics  
Shanghai 9<sup>th</sup> Hospital  
Shanghai Second Medical University, China
- 2006 Shijie Tang MD, Chair and Professor  
Department of Plastic and Reconstructive Surgery  
Shantou University, China
- 2006 Xiaowu Yao DDS, Chair and Professor  
Department of Plastic and Reconstructive Surgery  
Shantou University, China
- 2006 Xiao Wah Hui DDS, Associate Professor  
Department of Orthodontics  
Medical school of Jinan, China
- 2006 Jun Ho Park, DDS, PhD, Clinical Professor  
Department of Orthodontics  
Seoul National University, Korea
- 2006 Byoung Ho Kim, DDS, PhD, Clinical Professor  
Department of Orthodontics  
Seoul National University, Korea
- 2007 Jun Ho Park DDS, PhD, Clinical Professor  
Department of Orthodontics  
Younsei University, Korea
- 2007 Yao Gong, DDS, Associate Professor  
Department of Orthodontics  
Shanghai 9<sup>th</sup> Hospital

Shanghai Second Medical University, China

2007

Xin Gong, DDS, Associate Professor  
Department of Orthodontics  
Shanghai 9<sup>th</sup> Hospital  
Shanghai Second Medical University, China

2009-2010

Hong Freda Zhang, DDS  
Department of Orthodontics  
Guanghua School of Stomatology  
Sun Yat-sen University  
Guangzhou, China

2010-2011

Tae Kwan Kim, DDS, PhD, Clinical Professor  
Department of Dentistry, Graduate School  
Yonsei University  
Seoul, Korea

2010-2011

Jie-Jun Shi, DDS, PhD  
Department of Orthodontics  
Beijing Medical University, Beijing, China

2011-2012

Yulou Tian, DDS, PhD  
Associate Professor  
Orthodontic Department  
China Medical University in Shenyang  
Liaoning, China

2012-2013

Su-Jung Kim, DDS, PhD  
Assistant Professor  
Department of Orthodontics  
Kyung Hee University School of Dentistry

2013-2015

Haichao Jia, DDS  
Associate Clinical Professor  
School of Stomatology Capital Medical University, Beijing, China

2013-2015

Pu Yang, DDS  
Associate Professor  
West China School of Stomatology  
Shichuan University, Chengdu, China

2013-2014

Xuepeng Chen, DDS  
Attending Dept. of Orthodontics  
Zhenjiang University, China

- 2013-2014      Xiaojie Li, DDS  
Associate Professor  
Guanxi Medical University, China
- 2014-2015      Yang Qian, DDS  
Associate Professor  
Shandong University, China
- 2013-2016      Charles SoonChul Lee, MD, PHD  
Assistant Professor and Attending in Orthopedic Surgery  
Cha Hospital, Korea
- 2015-2015      Shahin Bayani, DDS  
Orthodontist, Iran
- 2015-2016      Xiaoyan Chen, DDS PhD  
Visiting Faculty  
Zhejiang University, China
- 2015-            Chenchao Wang, MD  
Plastic and Reconstructive Surgery faculty  
First Hospital of China Medical University, Shenyang, China
- 2016-            Pin Ha DDS, MD  
Oral and Maxillofacial Surgery Attending  
Sichuan University, China
- 2016-2017      Min Wang, DDS, PhD  
Visiting faculty  
Jiling University, China
- 2018-2019      Xiangyou Luo, DDS, PhD  
Visiting scholar  
Sichuan University, China
- 2019-            Xue Xu, DDS, MD, MS  
Visiting scholar  
Beijing Stomatological Hospital, Capital Medical University, China  
“Fibromodulin promotes tendon healing”  
“Fibromodulin regulates TFG $\beta$  signaling by orchestrating endocytosis”
- 2019-            Shahin Setoudehmaram, DDS  
Advanced ACT Orthodontic student  
“Systemic therapy of bisphosphonate conjugated NELL-PEG reverses osteoporosis in sheep”



2020- Chenshuang (Monica) Li, DDS, PhD  
Assistant Professor, School of Dental Medicine, University of Pennsylvania, PA,  
USA

### **Mentee Awards and Recognitions:**

Mentee: Aaron James MD, PhD

Awards: 2011 Excellence in Research Award in Orthopaedics, American College of Surgeons  
2011 Nomination for Chancellor's Award for Excellence in Postdoctoral Research  
2011 Communicating author, Featured Article, Global Medical Discovery Series.  
2012 President's Poster Competition Winner, American Society of Bone and Mineral Research  
2013 Spotlight Podium Presentation, Orthopaedic Research Society  
2013 Associate Member Abstract Competition Finalist, American College of Physicians  
2013 Best Abstract Award, International Society of Bone and Soft Tissue Pathology, 102<sup>nd</sup> United State and Canadian Academy of Pathology  
2013 Young Investigator's Award, American Society of Bone and Mineral Research  
2013 International Investigator's Award, American Society of Bone and Mineral Research  
2013 Best Pediatrics/Developmental Biology Abstract. 9<sup>th</sup> Annual Academic Surgical Congress  
2014 Johnson & Johnson Hyatt Award Competition, American Association of Dental Research  
2014 Daljit S. and Elaine Sarkaria Fellowship Award, Department of Pathology and Laboratory Medicine, University of California, Los Angeles.  
2015 Young Investigator Travel Award, American Society for Bone and Mineral Research

Mentee: Jin Hee Kwak, DDS, MS

Awards: 2011 Winner of Johnson & Johnson Hatton Awards Competition, IADR/AADR  
2011 Winner of Charley Schultz Resident Scholar Awards, AAO Annual Session  
2012 Winner of the Resident Category, Research Day, UCLA School of Dentistry  
2011 Winner of Colgate Research in Prevention Travel Awards  
2014 Winner of Johnson & Johnson Hatton Awards Competition, AADR  
2014 International Johnson & Johnson Hatton Awards Competition Finalist, IADR  
2016 Joseph Lister Award Poster Competition for New Investigators, IADR  
2018 Winner of the Innovation Award, American Astronautical Society  
2019 Winner of the Research Section Award in the Preclinical Models Section (podium), Orthopaedic Research Society (ORS) Annual Meeting  
2021 Award for Excellence in Oral Health Research. "BP-NELL-PEG Therapy to Regenerate Craniofacial Bones", Clinical Research Innov Award for Excellence in Oral Health Research. Clinical Research Innovation Day virtual meeting, Colgate-Palmolive Company, May 2021.

Mentee: Pin Ha, MD, DDS, MS  
Awards: 2017 Young Investigator Award, American Society for Gravitational and Space Research (ASGSR)

Mentee: Yulong Zhang  
Awards: 2017 Winner of the Young Investigator Award, American Society of Bone and Mineral Research  
2017 1<sup>st</sup> Place in Thermo Fisher Scientific Award

Mentee: Chenshuang (Monica) Li, DDS, MS  
Awards: 2014 Johnson & Johnson Hatton Competition Finalist, AADR Bloc Travel Grant  
2015 Johnson & Johnson Hatton Competition Finalist, AADR Bloc Travel Grant  
2016 Johnson & Johnson Hatton Competition Finalist, AADA Bloc Travel Grant  
2018 Winner of the dental student group, Research Day, UCLA School of Dentistry  
2018 First place winner of Charley Schultz Resident Scholar Award, American Association of Orthodontists (AAO) Annual Session  
2019 Winner of Thomas M. Graber Awards of Special Merit, AAO Annual Session  
2020 New Investigator Recognition Award [NIRA] finalist, Orthopaedic Research Society (ORS) Annual Meeting  
2020 Finalist of American Association for Dental Research (AADR) Hatton Competition (Post-doctoral Category)  
2020 Finalist of International Association for Dental Research (IADR) Craniofacial Biology Research Group, Orthodontic & Craniofacial Clinical and Translational Research Award  
2020 Chenshuang Li (**you are the mentor**), Finalist of International Association for Dental Research (IADR) Orthodontic, Research Group, Growth & Development Research Award  
2020 Second place of the Orthopaedic Research Society (ORS) Scientific Photo Competition  
2020 University of Pennsylvania School of Dental Medicine Research Day AADR Travel Grant  
2021 ORS/ON Foundation Orthoregeneration Award, Orthopaedic Research Society (ORS) Annual Meeting  
2021 Orhan C. Tuncay Teaching Fellowship Award, Orthodontic Faculty Development Fellowship Award, American Association of Orthodontists Foundation

Mentee: Gregory Asatrian, DDS, MS  
Awards: 2012 President's Poster Award, American Society of Bone and Mineral Research  
2013 Winner of dental student group, Research Day, UCLA School of Dentistry  
2013 Best Abstract Awards, United States and Canadian Academy of Pathology  
2013-2015 Student Research Fellowship Awardee, AADR  
2013 MSC Student Travel Grant Awardee, Mesenchymal Stem Cells Conference  
2013 Best Pediatric / Developmental Biology Abstract, 9th Annual Academic Surgical Congress

2013 1st Place Outstanding Medical Student Award, 9th Annual Academic Surgical Congress  
2014 Hatton Price Awardee, Finalist, AADR  
2014 UCLA ADA/DENTSPLY Student Clinician Research Program Awardee, ADA National Meeting  
2015 Bloc Travel Grant Recipient, AADR/NIDCR  
2016 Winner of dental student group, Research Day, UCLA School of Dentistry

Mentee: Justine Tanjaya  
Awards: 2015 Young Investigator Award, International Association for Dental Research Mineralized Tissue Group 93rd Annual Meeting  
2016 Johnson & Johnson Hatton Award Competition Finalist – Junior level category. AADR Annual Meeting  
2018 GradSlam Competition Semifinalist – Graduate level category, UCLA  
2018 2nd Place Winner of Scientific Posterboard – Resident level category, The Pacific Coast Society of Orthodontist (PCSO)  
2019 Thomas M. Grabber Awards of Special Merit, AAO

Mentee: Hsin Chuan (Dan) Pan, DDS, MS  
Awards: 2018 Art Competition / Award for Technical Merit, American Society for Gravitational and Space Research (ASGSR)

Mentee: Jiayu (Fiona) Shi, DDS, PhD  
Awards: 2019 1<sup>st</sup> Place Winner in Unilever Hatton Competition Senior Category, IADR  
2019 2<sup>nd</sup> place Winner in Hatton Competition Senior Category, AADR  
2019 1<sup>st</sup> place Winner in Master/Resident Category, UCLA Research Day

Mentee: Dou (Stella) Dong DDS  
Award: 2020 Selected as a finalist for the Craniofacial Biology Junior Awards Competition IADR/AADR/CADR General Session, March 2020. Washington, D.C.

Mentee: Diana B. Velicu DDS, MS  
Awards: 2021 1<sup>st</sup> Place Winner in Master's Student and Resident Category. UCLA School of Dentistry Research Day, Feb 2021, virtual even "Spaceflight-Induced Osteoarthritis in Non-Weight-Bearing Bone and Treatment with BP-NELL-PEG".  
2021 Winner of Postgraduate scientific Program. 8<sup>th</sup> Edition of the Virtual World Congress of Dental Students, Zagreb, Croatia (held online due to COVID-19 pandemic), May 2020.

Mentee: Wenlujiang DDS, PhD  
Award: Second place of 2021 William R. Proffit Resident Scholar Award (Basic science category), American Association of Orthodontics

Mentee: Chenshuang (Monica) Li DDS, PhD  
Award: ORS/ON Foundation Orthoregeneration Award, Orthopaedic Research Society (ORS) Annual Meeting , 2021

Mentee: Chenshuang (Monica) Li DDS, PhD  
Award: Orhan C. Tuncay Teaching Fellowship Award,  
Orthodontic Faculty Development Fellowship Award  
American Association of Orthodontists Foundation, 2021

Mentee: Chenshuang (Monica) Li DDS, PhD  
Award: Winner of International Association for Dental Research (IADR) Orthodontic  
Research Group, Innovation Award for Excellence in Orthodontics Research , 2021

Mentee: Pi Ha (DDS, PhD)  
Award: Young Investigator Travel Award  
American Society for Bone and Mineral Research Society, 2021

Mentee: Timothy Liu MD  
Award: 2<sup>nd</sup> place at the Wernher Von Braun Symposium, American Astronautic Society,  
2021

Mentee: Zhong Zheng PhD  
Award: Translational and Regenerative Science Award  
SAWC Spring Wound Healing Foundation and Wound Healing Society WHF/WHS,  
2022

Mentee: Timothy Liu MD  
Award: UCLA Viola Hyde Surgical Research Award 2022

**Professional Presentations and Invited Lectures:**

1989          Poster Research Presentation  
American Association of Dental Research  
Acapulco, Mexico

1991          Poster Research Presentation  
International Association of Dental Research  
Acapulco, Mexico

1991          Poster Research Presentation  
American Association for Cell Biology  
Boston, MA, USA

1992          Oral Research Presentation  
American Association of Dental Research  
Chicago, IL, USA

1994          Poster Research Presentation

International Association of Dental Research  
Seattle, WA, USA

- 1994 Forsythe Research Lecture Series  
Forsythe Dental Center  
Boston, MA, USA
- 1994 Continuing Education Lecture in Basic Science Research  
UCLA, School of Dentistry  
Los Angeles, CA, USA
- 1995 Research Presentation  
International Association of Dental Research  
Minneapolis, MN, USA
- 1996 Poster Research Presentation  
International Association of Dental Research  
San Francisco, CA, USA
- 1997 Poster Research Presentation  
International Association of Dental Research  
San Antonio, TX, USA
- 1998 Dean's Distinguished Scientists Lecture Series  
UCSF, School of Dentistry  
San Francisco, CA, USA
- 1998 Poster and Oral Research Presentations  
Asian Pacific Association of Orthodontists  
Taipei, Taiwan
- 1999 Chair for the Advances in Clinical Sciences Symposium  
American Association of Orthodontists Convention  
San Diego, CA, USA
- 1999 Poster Research Presentation  
International Conference of Craniofacial Surgery  
Taipei, Taiwan
- 2000 Special Guest Research Lecture  
National Institute of Tissue Engineering at Shanghai Ninth Hospital  
Shanghai Second Medical University, China
- 2000 Poster and Oral Research Presentation  
International Association of Dental Research  
Washington DC, USA

- 2001 Keynote Speaker  
“Overview and Vision of UCLA Research”  
Pacific Coast Association of Orthodontist, Regional Meeting
- 2001 Distinguished Scholar Guest Lecture  
Beijing University, China
- 2002 2<sup>nd</sup> Annual Southern California Wound Healing Symposium;  
Los Angeles, CA, March
- 2003 Los Angeles Tissue Engineering Initiative  
Los Angeles CA, November
- 2003 Guest Lecture  
Taiwan National Defense University  
Taipei, Taiwan, December
- 2004 Research Presentation  
International Association of Dental Research  
Honolulu, Hawaii, March
- 2004 Research Presentation  
American association of Orthodontists  
Orlando, Florida, April
- 2004 Research Presentation  
Craniofacial Skeletal Bioengineering  
COAST Conference,  
Pacific Grove, CA, August
- 2004 Plenary Session Presentation  
American Society of Bone and Mineral Research  
Seattle, WA, September
- 2004 Research Presentation  
Center for Craniofacial Molecular Biology  
University of Southern California,
- 2005 Taiwan National Defense Medical University  
Taipei, Taiwan
- 2005 Clinical Congress of the American College of Surgeons  
San Francisco, CA
- 2006 Gordon Conference on Musculoskeletal Tissue Engineering

- New Hampshire, US
- 2006 Biomaterial Conference  
Essen, Germany
- 2007 Research Presentation  
ASBMR, Hawaii, US
- 2008 Advanced Wound Care and Wound Healing Society Meeting, 21st Annual  
Symposium
- 2009 Plastic Surgery Research Council, 54th Annual Meeting  
Pittsburgh, PA
- 2009 American Society for Bone and Mineral Research, 31st Annual Meeting,  
Denver, CO
- 2009 First Global Congress of Chinese Dentist  
Xiamen, China
- 2010 American College of Surgeons, Clinical Congress, Washington, DC
- 2010 American Association for Dental Research, 39th Annual Meeting, Washington DC
- 2010 American Society for Bone and Mineral Research, 32nd Annual Meeting,  
Ontario, CANADA
- 2011 Orthopaedic Research Council, Long Beach, CA
- 2011 International Association for Dental Research  
San Diego, CA
- 2012 14<sup>th</sup> International Symposium on Dentofacial Development and Function, and  
11th Annual Session of Chinese Orthodontic Society,  
Peking, China
- 2013 Burstone's Translational Research Day Keynote speaker,  
University of Connecticut
- 2016 Keynote Speaker, Chinese Orthodontic Society Annual International Conference,  
Xi'an, China
- 2016 NASA Ames Research Center, Technical Innovation Meeting  
Mountain View, CA
- 2016 Tissue Engineering International & Regenerative Medicine Society, San Diego, CA

- 2016 International Space Station (ISS) R&D Conference, San Diego, CA
- 2017 Keynote Speaker, Chinese Orthodontic Society Annual International Conference, Shanghai, China
- 2017 Taiwan Association of Orthodontists Annual Conference, Kaoshong, Taiwan
- 2018 Invited lecture “Taking Craniofacial Patient Discoveries to the International Space Station”. American Association of Orthodontists Annual Session, Washington DC
- 2019 Speaker, Chinese Dental Association, OMS Division, Chengdu, China
- 2021 Invited Lecture, Forsyth Institute, Cambridge, Massachusetts on “Taking Craniofacial Patient Discoveries to the International Space Station” and “Orthodontic Treatment in Craniofacial patients”
- 2021 Keynote International Speaker, Chinese Orthodontic Society Annual International Conference, Jinan, China
- 2022 Speaker, Moorrees Memorial Symposium, Forsyth Institute, Cambridge, MA and Harvard School of Dental Medicine, Boston, MA
- 2022 Keynote International Speaker, Chinese Orthodontic Society Annual International Conference, Guanzhou, China
- 2023 Speaker, American Association of Orthodontists Annual Conference, Chicago, USA
- 2023 Keynote speaker, the International Orthodontics Foundation Global Symposium, HK

**Publications:**

**Manuscripts:**

1. **Ting K**, Petropulos LA, Iwatsuki M, Nishimura I. “Altered Cartilage Phenotype Expressed during Intramembranous Bone Formation.” *J. Bone Mineral Res.*, 8(11):1377-87, 1993. PMID: 8266829.
2. Nishimura I and **Ting K**. Clinical Science of Alveolar Bone. *Quintessence*, 12:2259-2266, 1993.
3. Nishimura I, Karimbux NY, **Ting K**, Chung KS, Mushimoto K. “Future Prospects of Guided Tissue Regeneration.” *Quintessence*, 5:927-9833, 1994.



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88. Jian J, Zheng Z, Hsu CY, Zara JN, Wang J, Ohanian N, Enjamuri DR, Zhang X, Ting K, Soo C. Fibromodulin induces angiogenesis during cutaneous wound healing. The 98th Annual Clinical Congress, American College of Surgeons, 2012 Chicago, IL.
89. Kim TM, James AW, Goyal R, Chiang M, Chung C, Asatrian G, Zhang X, Zara JN, Nguyen A, Turner AS, Seim HB 3<sup>rd</sup>, Ting K, Soo C. NELL-1 protein as an anabolic and anti-resorptive agent in an osteoporotic sheep model. American Society for Bone and Mineral Research, 2012, Minneapolis, Minnesota.
90. James AW, Shen J, Zhang X, Kim TM, Le K, Nguyen A, Rackohn T, Asatrian G, Soofer D, Culiati CT, Adams JS, Ting K, Soo C. A new protective function of Nell-1 against osteoporosis by activation of Wnt/Beta-catenin signaling. American Society for Bone and Mineral Research, 2012, Minneapolis, Minnesota.
91. Asatrian G, James AW, Chung CG, Zhang W, Stoker D, Zhang X, Ting K, Peault B, Soo C. Perivascular stem cells (PSCs) induce rat posterolateral lumbar spinal fusion. The Orthopaedic Research Society Annual Meeting, 2013, San Antonio, TX.
92. James AW, Chung C, Asatrian G, Velasco O, Pan A, Nguyen A, Liang P, Stoker D, Zhang X, Ting K, Peault B, Soo C. Perivascular stem cells induce bone formation and vasculogenesis in ectopic and bone injury models. The United States & Canadian Academy of Pathology's 102<sup>nd</sup> Annual Meeting, March 2013, Baltimore, MD.

93. Asatrian G, Chung CG, James AW, Liang P, Stoker D, Ting K, Peault B, Soo C. Human perivascular mesenchymal stem cells promote lumbar spinal fusion via induction of osteogenesis and vasculogenesis. The 91<sup>st</sup> Annual International Association for Dental Research Meeting/ 42nd Annual American Dental Research Meeting/ 37th Annual California Dental Research Meeting, March 2013, Seattle, Washington.
94. Kwak J, Chiang M, Ngo R, Le K, Asatrian G, Chung CG, Moon C, Tetradis S, Zhang X, Ting K, Soo C. Novel MicroCT-based Analysis Method for Regenerative Studies using Osteoporosis Model. The 91st Annual International Association for Dental Research Meeting/ 42nd Annual American Dental Research Meeting/ 37th Annual California Dental Research Meeting, March 2013 Seattle, Washington.
95. Zheng Z, Jian J, Zhang X, Velasco O, Chung G, Hourfar A, Zhang K, Lee KS, Ting K, Soo C. Fibromodulin reprogrammed cells for bone and skeletal muscle regeneration. The 58<sup>th</sup> Annual Meeting of the Plastic Surgery Research Council, 2013, Santa Monica, California.
96. Jian J, Zheng Z, Hsu CY, Velasco O, Zhang K, Wang J, Zhang X, Ting K, Soo C. Fibromodulin induces angiogenesis during cutaneous wound healing. The 58<sup>th</sup> Annual Meeting of the Plastic Surgery Research Council, May 2013, Santa Monica, California.
97. James AW, Chung CG, Asatrian G, Chang L, Askarinam A, Zhang X, Ting K, Peault B, Soo C. Perivascular stem cells promote bone formation and angiogenesis in ectopic and bone injury models. The Military Health System Research Symposium, 2013, Fort Lauderdale, Florida.
98. Asatrian G, James AW, Chung CG, Velasco O, Zhang X, Ting K, Soo C. Systemic administration of the osteoinductive growth factor NELL-1 promotes bone formation in osteoporotic Mice. The Military Health System Research Symposium, 2013, Fort Lauderdale, Florida.
99. James AW, Asatrian G, Chung CG, Zhang X, Ting K, Peault B, Soo, C. Purified perivascular stem cells induce improved osteogenesis and vasculogenesis in bone injury models. The Mesenchymal Stem Cells Meeting, 2013, Cleveland, Ohio.
100. Asatrian G, James AW, Chung CG, Kim J, Zhang X, Ting K, Peault B, Soo C. Development of a combination product for improved bone tissue regeneration: perivascular stem cells + NELL-1. The Mesenchymal Stem Cells Meeting, 2013, Cleveland, Ohio.
101. Zheng Z, Velasco O, Chuang G, Rackohn TM, Li CS, Lee KS, Sagdeo N, Zhang X, Ting K, Soo C. The use of fibromodulin for scar reduction. Military Health System Research Symposium (MHSRS). 2013, Fort Lauderdale, FL.
102. James AW, Chung CG, Asatrian G, Velasco O, Halperin D, Park KW, Bayani G, Khadarian K, Zhang X, Ting K, Tontonoz P, Soo C. The oral small molecule Phenamil regulates BMP signaling and prevents ovariectomy-induced osteoporosis. The Annual American Society of

Bone and Mineral Research Meeting, 2013, Baltimore, Maryland. **Winner of the Young Investigator Award. Winner of the International Investigator Award.**

103. James AW, Shen J, Velasco O, Asatrian G, Chung G, Khadarian K, Zhang Y, Chang L, Goyal R, Kim J, Zhang X, Adams J, Ting K, Soo C. Systemic administration of NELL-1, a Wnt/ $\beta$ -Catenin Regulator, Induces Bone Formation in Osteoporotic Mice via Integrin $\beta$ 1. The Annual American Society of Bone and Mineral Research Meeting, 2013, Baltimore, Maryland. **Winner of the Young Investigator Award. Winner of the International Investigator Award.**
104. Zheng Z, Hsu C, Zhang Y, Velasco O, Lee KS, Rackohn T, Shen C, Ngo TT, Wu B, Zhang X, Ting K, Soo C. Application of silver nanoparticle-based materials in orthopedic surgery. ASBMR 2013 Annual Meeting. 2013, Baltimore, ML.
105. Asatrian G, James AW, Zhang Y, Kwak JH, Chung CG, Velasco O, Zhang X, Wu BM, Soo C, Ting K. Intravenous NELL-1 Therapy Promotes Bone Formation in Osteoporotic Mice. UCLA's Society of Biomaterials Lecture. 2013, Los Angeles, CA.
106. Asatrian G, James AW, Zhang Y, Chung CG, Velasco O, Zhang X, Ting K, Soo C. Systemic Delivery of Chemically Modified NELL-1 Promotes Bone Formation in Osteoporotic Mice. The Annual Academic Surgical Congress, 2014, San Diego, California. **Winner of Best Pediatric / Developmental Biology Abstract. Winner of First Place Outstanding Medical Student Award.**
107. James AW, Shen J, Khadarian K, Pang S, Nguyen A, Chang L, Asatrian G, Nguyen T, Kim J, Zhang X, Ting K, Soo C. Lentiviral delivered PPAR-gamma shRNA improves bone microarchitecture after intramedullary injection. The 60<sup>th</sup> Annual Orthopaedic Research Society Meeting, 2014, New Orleans, Louisiana.
108. James AW, Asatrian G, Zhang Y, Shen J, Chung CG, Bayani P, Zhang X, Ting K, Soo C. PEGylation increases the half-life of intravenously delivered NELL-1 to promote the reversal of the osteoporotic phenotype in mice. The 60<sup>th</sup> Annual Orthopaedic Research Society Meeting, 2014, New Orleans, Louisiana.
109. Shen J, James AW, Asatrian G, Nguyen A, Chang L, Li X, Zhang X, Ting K, Soo C. The osteoinductive growth factor NELL-1 also has anti-osteoclastic effects, likely via direct and indirect mechanisms. The 60<sup>th</sup> Annual Orthopaedic Research Society Meeting, 2014, New Orleans, Louisiana.
110. Asatrian G, James AW, Shen J, Kwak J, Chung CG, Velasco O, Nguyen A, Chang L, Chawan C, Bayani G, Dolatyar S, Zhang X, Soo C, Ting K. Intravenous NELL-1 Therapy Reverses Osteoporotic Bone Loss via Integrin $\beta$ 1. The 43<sup>rd</sup> Annual American Association of Dental Research Meeting, 2014, Charlotte, North Carolina.
111. Kwak J, Zhang Y, Park J, James AW, Shen J, Asatrian G, Chung GC, Velasco O, Chawan C, Khalilnejad K, Nguyen A, Chang L, Chen E, Lee KS, Bayani P, Dolatyar S, Zhang X, Soo

- C, Wu B, Ting K. PEGylated NELL-1 As Novel Platform Technology For Systemic Osteogenic Therapy. The 43<sup>rd</sup> Annual American Association of Dental Research Meeting 2014, Charlotte, North Carolina. ***Johnson & Johnson Hatton Awards Competition Winner.*** International Association for Dental Research (IADR), 2014, Cape Town, South Africa. ***Selected as finalist for International Johnson & Johnson Hatton Awards Competition.***
112. Chung CG, Kwak J, Velasco O, Asatrian G, James AW, Sukhija K, Kim S, Chang L, Nguyen A, Chawan C, Chiang M, Ajalat M, Pritchard T, Bayani P, Kim JH, Lee KS, Hardy RW, Lagishetty V, Zhang X, Peault B, Soo C, Ting K. Perivascular Stem Cells With NELL-1 Protein Induce Robust Spinal Fusion. The 43<sup>rd</sup> Annual American Association of Dental Research Meeting, 2014, Charlotte, North Carolina.
  113. Nguyen A, Asatrian G, Chung CG, Chang L, Scott MA, Velasco O, Bayani P, Dolatyar S, Pritchard T, Ajalat M, Zhang X, Soo C, Tontonoz P, Ting K. Orally administered Phenamil prevents the onset of ovariectomy-induced osteoporosis. The 43<sup>rd</sup> Annual American Association of Dental Research Meeting, 2014, Charlotte, North Carolina.
  114. Zheng Z, Murphy M, Shen J, Ngo TT, Levin A, Ye O, Lee KS, Zhang X, Ting K, Soo C. Fibromodulin reduces scar formation in rodent and porcine cutaneous wound models. The Symposium on Advanced Wound Care / Wound Healing Society Joint Meeting, 2014 Orlando, FL.
  115. Asatrian G, Kwak JH, Zhang Y, Park J, Chawan C, James AW, Shen J, Khalilinejad K, Velasco O, Malakootian M, Zhang X, Ting K, Soo C. Intravenously Administered PEG-NELL-1 Promotes Bone Formation and Density. The Military Health System Research Symposium, 2014, Fort Lauderdale, FL.
  116. Zheng Z, Velasco O, Yang P, Lord EL, Khalilinejad K, Murphy M, Yue O, Kim S, Lee M, Zhang X, Ting K, Soo C. Fibromodulin reprogrammed progenitor cells for skeletal muscle regeneration. The Military Health System Research Symposium, 2014, Fort Lauderdale, FL.
  117. Zheng Z, Yang P, Velasco O, Lord EL, Khalilinejad K, Yue O, Murphy M, Kim S, Lee M, Zhang X, Ting K, Soo C. Fibromodulin reprogrammed progenitor cell-based therapy for skeletal muscle generation. ASBMR Annual Meeting, 2014, Huston, TX.
  118. Zhang Y, Kwak JH, Park J, Chawan C, Velasco O, Khalilinejad K, Shen J, Chen E, Bayani P, Dolatyar S, Asatrian G, Zhang X, Soo C, Wu B, Ting K. PEGylation of NELL-1 Improves Pharmacokinetics and Systemic Osteogenic Therapy. American Society for Bone and Mineral Research (ASBMR). 2014, Huston, TX.
  119. Shen J, Khadarian K, Chen F, Asatrian G, Zhang X, Dry SM, Ting K, Soo C, James AW. NELL-1 expression in benign and malignant bone tumors and correlation with malignant potential. ASBMR Annual Meeting, 2014, Huston, TX.
  120. Khadarian K, Shen J, Velasco O, Asatrian G, Kwak J, Chawan C, Park JY, Zhang X, Ting K, Soo C. Designing a Simplified, Femoral-Defect Mouse Model to Evaluate Bone

Morphogenic Protein-2 (BMP-2) Relevant Side Effects. American College of Surgeons' Clinical Congress. 2014, San Francisco, CA.

121. Zheng Z, Velasco O, Chung G, Murphy M, Khalilinejad K, Ngo TT, Shen J, Zhang X, Ting K, Soo C. A novel anti-scar peptide for cutaneous wound repair. The 100<sup>th</sup> American College of Surgeons Annual Clinical Congress, 2014, San Francisco, CA.
122. Galindo R, Zarringhalam A, Zheng Z, Ting K, Soo C. Purification and characterization of recombinant Fibromodulin for the investigation of wound repair. Emerging Researchers National Conference in STEM. 2015, Washington, D.C.
123. Lord EL, Tanjaya J, Kwak JH, Chen E, Khalilinejad K, Wang JC, Soo C, Ting K. Effects Of Systemic Pegylated Nell-1 On Fracture Healing And Bone Density In A Mouse Model. American Academy of Orthopaedic Surgeons Annual Meeting, 2015, Las Vegas, Nevada.
124. Zheng Z, Yang P, Li CS, Lord EL, Khalilinejad K, Park J, Chung C, Aghaloo T, Zhang X, Ting K, Soo C. Fibromodulin reprogrammed cells for bone regeneration. Orthopaedic Research Society Annual Meeting, 2015 Las Vegas, Nevada.
125. Li CS, Chung C, Jiang J, Zhang X, Ting K, Soo C. Nell-1 restores delayed chondrocyte maturation caused by Runx2 deficiency. Orthopaedic Research Society Annual Meeting , 2015 Las Vegas, Nevada.
126. LaChaud G, Shen J, Khadarian K, Asatrian G, Zhang X, Dry SM, Ting K, Soo C, James AW. The correlation of malignant potential with NELL-1 expression in benign and malignant bone tumors. Orthopaedic Research Society 61<sup>st</sup> Annual Meeting, 2015, Las Vegas, NV.
127. Shen J, James AW, Khadarian K, Li W, Kwak J, Lee M, Wu B, Ting K, Soo C, Zhang X. NELL-1 promotes spinal fusion in non-human primates. Orthopaedic Research Society 61<sup>st</sup> Annual Meeting, 2015, Las Vegas, NV.
128. Shen J, LaChaud G, Shrestha S, Zhang X, Asatrian G, Soo C, Ting K, Dry SM, James AW. The osteoinductive protein NELL-1 is associated with Wnt/B-Catenin signaling and osteogenic differentiation in benign but not malignant bone tumors. The United States & Canadian Academy of Pathology Annual Meeting, 2015, Boston, MA.
129. Asatrian G, James AW, Zhang X, Shen J, Nguyen A, Kwak J, Chung CG, Peault B, Soo C, Ting K. Implanted perivascular stem cells with NELL-1 synergistically promote bone formation. International / American Association of Dental Research, 2015, Boston, MA.
130. Li CS; Zhang, X; Zhou, YH; Soo, C Ting, K. CNTNAP4 functions as a NELL-1 receptor affecting osteoblastic differentiation. Poster presentation at the International/American Association of Dental Research, 2015, Boston, MA. **Winner of AADR Bloc Travel Grant. Finalist for Johnson & Johnson Hatton Competition (Senior Category).**

131. Dousti M, Zhang Y, Lee CS, Cheheltanan M, Girgius C, Tanjaya J, Khalilinejad K, Kwak JH, Ting K. Comparison of efficacy of different routes of NELL-PEG administration. Oral presentation at the International/American Association of Dental Research, 2015, Boston, MA.
132. Zheng Z, Aghaloo T, Li C, Yang P, Lee S, Kwak J, Zarringhalam A, Murphy M, Ting K, Soo C. Fibromodulin reprogrammed cells-based bone regeneration. The 60th Annual Meeting of the Plastic Surgery Research Council, 2015, Seattle, WA.
133. Zheng Z, Li C-S, Chang GX, Murphy M, Khalilinejad K, Yang P, Velasco O, Zhang X, Ting K, Soo C. Skeletal muscle regeneration by fibromodulin reprogrammmed cells. The 101<sup>st</sup> American College of Surgeons Annual Clinical Congress, 2015, Chicago, IL.
134. Zheng Z, Zhang X, Li C-S, Murphy M, Wang J, Lee S, Chen EC, Ting K, Soo C. Fibromodulin—a promising therapeutic molecule for reducing cutaneous scar formation. The 4<sup>th</sup> TERMIS World Congress, 2015, Boston, MA.
135. Zhang Y, Kwak JH, Lee S, Tanjaya J, Mohammad A, Ang P, Khalilinejad K, Dousti M, Girgius C, Shen J, Chen E, Lim R, Asatrian G, Zhang X, Wu B, Ting K, Soo C. Chemical modification of NELL-1, an osteogenic factor, as a novel systemic therapy for osteoporosis. Podium presentation at the 4<sup>th</sup> Tissue Engineering & Regenerative Medicine International Society World Congress. 2015, Boston, MA.
136. Kwak JH, Yulong Z, Park J, Shen J, Chawan C, Lee S, Zhang X, Wu B, Ting K, Soo C. Pharmacokinetics and osteogenic potential of PEGylated NELL-1 in vivo after systemic administration. Oral presentation at the American College of Surgeons Clinical Congress. 2015, Chicago, IL.
137. James AW, Shen J, Asatrian A, Shrestha S, Wu B, Ting K, Soo C, Zhang X. NELL-1 induced expansion of Sca-1+mesenchymal stem cell population for bone formation from mouse to non-human primate. Poster presentation at the American Society for Bone and Mineral Research 2015 Annual Meeting. 2015, Seattle, WA.
138. Shen J, Shrestha S, Meyers CA, LaChaud G, Asatrian G, Singh A, Federman N, Dry SM, Ting K, Soo C, James AW. Sclerostin expression and biologic function in skeletal sarcomas. Orthopaedic Research Society Annual Meeting, 2016, Orlando, Florida.
139. Lee S, Zhang X, Shen J, James AW, Chung CG, Hardy R, Li C, Girgius C, Zhang Y, Stoker D, Wang H, Wu BM, Peault B, Ting K, Soo C. The use of hPSCs and Nell-1 for the spinal fusion of osteoporotic rats. Orthopaedic Research Society Annual Meeting, 2016, Orlando, Florida.
140. Li CS, Ling M, Zheng Z, Yu M, Zhang X, Peault B, Zhou Y, Ting K, Soo C. Accelerated chondrogenic differentiation of human perivascular stem cells with NELL-1. The American Association for Dental Research, 2016, Los Angeles, CA. ***Finalist for Johnson & Johnson Hatton Award Competition, Senior category.***

141. Chen Y, Yu M, Hsu CY, Zhang Y, Pan HC, Wu B, Zhang X, Soo C, Ting K, Zheng Z. Surface properties and osteoinductivity of silver nanoparticle/PLGA-coated metal materials. Poster presentation at the American Association for Dental Research, 2016, Los Angeles, CA.
142. Yu M, Tanjaya J, Li CS, Pan HC, Wang H, Ting K, Soo C, Zhang X. The effects of Nell-1 deficiency in cranial neural crest cells. American Association for Dental Research, 2016, Los Angeles, CA.
143. Pan HC, Shi J, Kim JK, Lee S, Uyeda M, Tanjaya J, Reese P, Ting K, Kwak JH. Novel dual-energy X-ray absorptiometry analysis for mice trabecular bone-rich regions. American Association for Dental Research, 2016, Los Angeles, CA.
144. Lim R, Shi J, Kim JK, Pan HC, Reese P, Chen E, Zhang Y, Lee S, Wu B, Kwak JH. Systemic NELL-1 administration regenerates bone in osteoporotic mice. American Association for Dental Research, 2016, Los Angeles, CA.
145. Tanjaya J, Zhang Y, Lee S, Shi J, Dousti M, Ang P, Kwak J, Ting K. Efficacy of intraperitoneal administration of PEGylated NELL-1 for bone remodeling. American Association for Dental Research, 2016, Los Angeles, CA. ***Finalist for Johnson & Johnson Hatton Award Competition, Junior category.***
146. Frump D, Shi J, Uyeda M, Pan HC, Kim JK, Kwak J. Altered skeletal morphology resulting from in vivo micro-CT radiation exposure. American Association for Dental Research, 2016, Los Angeles, CA.
147. Uyeda M, Shi J, Lee S, Zhang Y, Chen E, Lim R, Ting K, Wu B, Kwak JH, Soo C. Systemic NELL-1 Administration Regenerates Bone in Osteoporotic Mice. The Plastic Surgery Research Council, 2016, New York City, NY.
148. Kwak J, Shi J, Pan HC, Chen E, Zhang Y, Lee S, Ting K, Wu B, Soo C. Systemic NELL-PEG therapy regenerates jaw bones in osteoporotic mice. International Association for Dental Research Meeting, 2016, Seoul, Republic of Korea. ***Finalist for 2016 IADR Joseph Lister Award.***
149. Lee K, et al. Fibromodulin significantly reduces scar in adult rodent and porcine wounds. International Association for Dental Research Meeting, 2016, Seoul, Republic of Korea.
150. Kwak JH, Shi J, Lee S, Chen E, Zhang Y, Pan HC, Stodieck L, Ting K, Wu B, Soo C. Novel systemic PEGylated NELL-1 therapy for osteoporosis. Presentation at the International Space Station R&D Conference. 2016, San Diego, CA. ***Briefing highlighted in Upward (Issue 3), the quarterly magazine of the ISS National Lab.***
151. Kwak JH, Shi J, Pan HC, Chen E, Zhang Y, Lee S, Ting K, Wu B, Soo C. Systemic NELL-PEG Therapy: Skeletal effects on the ground and in space. Podium presentation at the



Consortium for Orthodontic Advances in Science and Technology (COAST) – Workshop in “Personalized & Precision Orthodontics”. 2016, West Palm Beach, FL.

152. Yu M, Pan HC, Tanjaya J, Li CS, Shen J, Chen E, Chen X, Wang H, Ting K, Soo C, Zhang X. Nell-1 deficiency in cranial neural crest cells results in microcephalic phenotype. Poster presentation at the American Society for Bone and Mineral Research Annual Meeting. 2016, Atlanta, GA.
153. Pan HC, Lee S, Zhang X, Shen J, Wang C, Turner SA, Seim HB, Zara JN, Kwak JH, Ting K, Soo C. Local osteolytic effect of BMP-2 in sheep lumbar spinal fusion. Poster presentation at the American Society for Bone and Mineral Research Annual Meeting. 2016, Atlanta, GA.
154. Shen J, Meyers CA, Asatrian G, Hardy W, Zhang X, Ting K, Peault B, Soo C, James AW. WNT16 is enriched among perivascular progenitor cells, inducing stem cell proliferation and osteogenic differentiation. Poster presentation at the American Society for Bone and Mineral Research 2016 Annual Meeting. 2016, Atlanta, GA.
155. Zhang Y, Tanjaya J, Kwak JH, Yu M, Lee S, Shi J, Dong R, Shen J, Chen E, Zhang X, Soo C, Wu B, Ting K. Bisphosphonate-modified PEG-NELL, a novel bone-targeted molecule, as a systemic therapeutic for osteoporosis. Poster presentation at the American Society for Bone and Mineral Research Annual Meeting. 2016, Atlanta, GA.
156. Zhang Y, Tanjaya J, Kwak JH, Shi J, Li C, Lee S, Yu M, Dong R, Chen E, Zhang X, Soo C, Wu B, Ting K. Bisphosphonate-modified PEG-NELL, a novel bone-targeted molecule, as a systemic therapy for osteoporosis. Tissue Engineering & Regenerative Medicine International Society (TERMIS) Americas Meeting. 2016, San Diego, CA.
157. Asatrian G, Shen J, Meyers CA, Ding C, Zhang X, Peault B, Soo C, James AW\*, Ting K\*. Wnt16: Enhanced and Integral in Perivascular Progenitor Cell Osteogenic Differentiation. International Association of Dental Research, Mar 2017.
158. Li C, Zheng Z, Chen E, Lee K, Zhang X, Soo C, Ting K. Nell-1 regulates cartilage maturation through Runx3-mediated lhh signaling. Poster presentation at the UCLA Research Day, Mar 2017, Los Angeles, CA.
159. Qi H, Hourfar A, Li C, Boback B, Chen E, Chen X, Mohammad A, Azer S, Hu M, Zhang X, Soo C, Ting K. Nell-1 Deficiency Attributed to Early Onset of Mouse Osteoarthritic Phenotype. American Association for Dental Research (AADR) conference, 2017, San Francisco, CA.
160. Jiang W, Chen Y, Wang C, Lee K, Wang J, Lee S, Ting K, Zhao Z, Soo C, Zheng Z. Fibromodulin selectively promotes myofibroblast apoptosis during cutaneous wound healing. Plastic Surgery Research Council (PSRC), 2017, Durham, NC.
161. Meyers, CA, Hardy WR, Asatrian G, Hindle P, Crisan M, Yan N, Liang P, Zhang X, Ting K, Soo C, Peault B, James AW. New advances in perivascular progenitor cell directed bone

- regeneration. The Military Health System Research Symposium, August 2017, Kissimmee, FL.
162. Wang C, Zheng Z, Jiang W, Chen Y, Ha P, Kim JK, Berthiaume E, Ting K, Da Lio A, Soo C. Fibromodulin Enhances Healing in Achilles Tendon Injury. Oral presentation at American College of Surgeons, 2017, San Diego, CA.
  163. Li C, Soo C, Ling M, Wang J, Chang G, Jiang W, Mangul S, Chen E, Zhang X, Ting K, Zheng Z. Fibromodulin Reprogrammed Cells, a Safe Source for Skeletal Muscle Regeneration. American Association for Dental Research (AADR) conference, 2017, San Francisco, CA.
  164. Ha P, Li C, Jiang W, Berthiaume E, Mills Z, Kim JK, Wang J, Chen E, Zhang X, Ting K, Soo C, Zheng Z. Fibromodulin reprogrammed cells: a safe source for musculoskeletal regeneration. Poster presentation at American Society of Bone and Mineral Research, 2017, Denver, CO.
  165. Li C, Zheng Z, Ha P, Jian W, Lee S, Song R, Boback B, Hourfar A, Chen E, Culiati C, Zhang X, Ting K, Soo C. Involvement and Therapeutic potential of Nell-1 in inflammatory arthritis. Poster presentation at American Society of Bone and Mineral Research, 2017, Denver, CO.
  166. Meyers C, Hardy W, Hindle P, Asatarian G, Crisan M, Yan N, Liang P, Zhang X, Ting K, Soo C, Peault B, James A. Conservation of perivascular progenitor cell antigens and methods of isolation across mammalian species. Poster presentation at American Society of Bone and Mineral Research, 2017, Denver, CO.
  167. Jiang W, Chen Y, Wang C, Lee K, Wang J, Lee S, Ting K, Zhao Z, Soo C, Zheng Z. Abstract 12: Fibromodulin Selectively Promotes Myofibroblast Apoptosis During Cutaneous Wound Healing. *Plastic & Reconstructive Surgery Global Open*, 5(4 Suppl), 9-10 (2017).
  168. Zhang Y, Shi J, Kwak J, Tanjaya J, Yu M, Ha P, Pan HC, Zhang X, Soo C, Ting K, Wu B. Bisphosphonate-Modified PEG-NELL, a Novel Bone-Targeted Molecule, as a Systemic Therapy for Osteoporosis. 18th Annual UC Systemwide Bioengineering Symposium, Jun 28-30, 2017, Los Angeles, CA. ***Young Investigate Award.***
  169. Zhang Y, Shi J, Kwak J, Tanjaya J, Yu M, Ha P, Wang C, Pan HC, Chen E, Zhang X, Soo C, Wu B, Ting K. A New Bone Seeking Anabolic Protein, Bisphosphonate-Modified NELL-PEG, Can Effectively Reverse Osteoporosis by Systemic Administration. American Society of Bone and Mineral Research, Sep. 8-11, 2017, Denver, CO.
  170. Chang L, Sun Z, Meyers C, LaChaud G, Soo C, Ting K, James A. Crispr-mediated Nell-1 Gene Deletion Demonstrates Essential Roles In Osteosarcoma Cell Proliferation, Migration And Osteogenic Differentiation. Oral presentation at the Orthopedic Research Society Annual Meeting, 2018, New Orleans, LA.
  171. Zhang L, Chang L, Xu J, Meyers CA, Yan N, Zou E, Ding C, Ting K, Soo C, Pang S, James AW. Frontal Bone Healing Is Sensitive To Lentiviral Mediated Beta-catenin Shrna

- Knockdown. Poster presentation at Orthopedic Research Society Annual Meeting, 2018, New Orleans, LA.
172. Jiang W, Song R, Lee S, Zara, JN, Li C, Chen E, Zhang X, Soo C, Zheng Z. Fibromodulin versus triamcinolone acetonide in the healing of cutaneous wounds. Poster presentation at AADR/CADR Annual Meeting. 2018, Fort Lauderdale, FL. Poster and oral presentation at the UCLA Research Day, April 2018, Los Angeles, CA. **Winner in dental student group.**
  173. Li C, Zheng Z, Ha P, Song R, Chen E, Jiang J, Jiang W, Lee S, Culiati CT, Zhang X, Ting K, Soo C: Nell-1 a potential treatment for inflammatory arthritis. AADR/CADR Annual Meeting & Exhibition, 2018, Fort Lauderdale, Fla.
  174. Qi H, Kim J, Chen X, Chen Y, Chen E, Baik L, Mohazeb, Zhang X, Soo C, Hu M, Ting K. Nell-1 modulates postnatal cartilage homeostasis and endochondral ossification. AADR/CADR Annual Meeting & Exhibition, 2018, Fort Lauderdale, Fla.
  175. Shi J, Ha P, Pan HC, Kim JK, Zhang YL, Tanjaya J, Chen E, Baik L, Kwak J, Ting K. Harnessing the Osteogenic Potential of BMSCs in Microgravity-induced Osteoporosis. AADR/CADR Annual Meeting & Exhibition, 2018, Fort Lauderdale, Fla.
  176. Ha P, Li C, Kim JK, Jiang W, Chang GX, Yoon S, Chen E, Zhang X, Ting K, Soo C, Zheng Z. Skeletal muscle regeneration by fibromodulin reprogrammed cells without tumorigenic risks. Plastic Surgery Research Council (PSRC), 2018, Birmingham, AL.
  177. Li C, Zheng Z, Zhang X, Soo C, Ting K. Runx2 – Nell-1 – Runx3 – Ihh is an alternative but critical pathway for chondrogenesis regulation. Poster presentation at the Pacific Coast Society of Orthodontics Annual Session, Oct 2018, Monterey, CA.
  178. Bedree JK, Huang Y, Shi J, Ha P, Pan HC, Stodieck L, Kim JK, He X, Wu B, Kwak JH, Ting K, Soo C, Shi W. Microgravity induces alpha diversity increase in the gut microbiome of rodents. Presentation at the American Society for Gravitational and Space Research Annual Meeting, Oct 2018, Bethesda, MD.
  179. Shi JY, Pan HC, Ha P, Kim JK, Zhang YL, Chen E, Baik L, Kwak JH, Ting K. Innovative BP-NELL-PEG therapy for microgravity-induced osteoporosis. Presentation at the Pacific Coast Society of Orthodontists (P CSO) Annual Session, Oct 2018, Monterey, CA.
  180. Li C, Zheng Z, Asatrian G, Chen E, Zhang X, Soo C, Kang T. Neurexin superfamily member Cntnap4 is a specific receptor of Nell-1 for osteogenesis. Poster presentation at American Association of Orthodontists, Annual Section. 2018, Washington D.C. **Winner of Charley Schultz Resident Scholar Award.**
  181. Zhang X, Chen X, Qi H, Yu M, Kim C, Chen E, Ha P, Baik L, Needle R, Yang C, Mohazeb Y, Hu M, Soo C, Ting K, Wang H. Nell-1 is a Major Modulator beyond Craniofacial and Appendicular Skeletogenesis. Oral presentation at the International Association of Dental Research Annual Meeting. 2018, London, UK.

182. Li CH, Zheng Z, Zhang XL, Soo C, Ting K. Neural EGFL like 1 as an anti-inflammatory disease-modifying anti-arthritic drug. Podium presentation at the American Association of Orthodontics Annual Session, 2019, Los Angeles, California. **Winner of Thomas M. Graber Awards of Special Merit.**
183. Tanjaya J, Zhang XL, Soo C, Ting K. The delicate balance between BMP2-mediated osteogenesis and adipogenesis for critical-size bone defect healing. Podium presentation at the American Association of Orthodontics Annual Session, 2019, Los Angeles, California. **Winner of Thomas M. Graber Awards of Special Merit.**
184. Ha P, Luo XY, Li C, Mok JW, Lee S, Golnazarian N, Chen E, Zheng Z, Ting K, Zhang XL, Soo C. Inactivation of Cntnap4 in cranial neural crest cells results in craniofacial bone deformities and hydrocephalus. Oral presentation at the Plastic Surgery Research Council (PSRC), 2019, Baltimore, Maryland. Oral presentation at the IADR/AADR/CADR Annual Meeting, June 2019, Vancouver, Canada.
185. Zhang YL, Ha P, Tsuei T, Mok JW, Irwin L, Pang XX, Subhedar S, Amini Y, Pan HC, Berthiaume EA, Ingrao J, Wu B, Zheng Z, Ting K, Soo C. A novel bioactive suture that accelerates wound tensile strength re-establishment and enhances wound healing. Oral presentation at the Plastic Surgery Research Council (PSRC), 2019, Baltimore, Maryland.
186. Kwak JH, Shi JY, Ha P, Pan HC, Zhang Y, Chen E, Stodieck L, Kim JK, Zhang X, Wu B, Ting K, Soo C. NELL-1-based Systemic Therapy Prevents Long-duration Spaceflight-induced Osteoporosis in Rodents. Presentation at the International Skeletal Society 45<sup>th</sup> Annual Meeting, Sept 2018, Berlin, Germany. Presentation at the American Society for Gravitational and Space Research (ASGSR) Annual Meeting, Oct 2018, Bethesda, MD. Oral and poster presentation at the ORS Annual Meeting, Feb 2019, Austin, Texas. **Winner of the Research Section Award in the Preclinical Models Section.**
187. Shi JY, Ha P, Pan HC, Kim JK, Zhang Y, Chen E, Duong T, Baik L, Kwak JH, Ting K. Inactivated-bisphosphonate boots bone-targetedness of systemic NELL-1 therapy for spaceflight-induced osteoporosis. Oral and poster presentation at the UCLA Research Day, Feb 2019, Los Angeles, California. **1<sup>st</sup> place Winner in master/resident category.** Oral presentation at the IADR/AADR/CADR Annual Meeting, June 2019, Vancouver, Canada. **1<sup>st</sup> Place winner in IADR Unilever Hatton Competition Senior Category (Basic Science). 2<sup>nd</sup> Place winner in AADR Hatton Competition Senior Category.**
188. Ha P, Luo X, Li C, Lee S, Chien A, Chen E, Zheng Z, **Ting K**, Zhang X, Soo C. Cntnap4 is a novel regulator for development and growth of cranial vault and base. Oral presentation at the American Society for Bone and Mineral Research Annual Meeting, Sept 2019, Orlando, Florida.
189. Li C, Ha P, Jiang W, Berthiaume E, Pan HC, Culiati C, Zhang X, **Ting K**, Soo C, Zheng Z. Neural EGFL Like 1, a new dual-functioning disease-modifying osteoarthritis drug.

Presentation in the Orthopaedic Research Society (ORS) 2020 Annual Meeting, Phoenix, AR, USA, Feb 8-11, 2020. ***New Investigator Recognition Award [NIRA] finalist.***

190. Qin Q, Lee S, Chang L, Meyers C, McCarthy E, Morris C, **Ting K**, James A. NELL1 deletion reduces osteosarcoma disease progression and improves overall survival via pleiotropic cellular effects. Presentation in the Orthopaedic Research Society (ORS) 2020 Annual Meeting, Phoenix, AR, USA, Feb 8-11, 2020.
191. Li C, Stiles L, **Ting K**, Soo C, Zheng Z. Single protein reprogramming to generate a safe multipotent cell source. In the 2020 IADR/AADR/CADR General Session, Washinton D.C., USA, March 18-21, 2020. ***Hatton Competition (Post-doctoral Category) finalist, Finalist of International Association for Dental Research (IADR) Craniofacial Biology Research Group, Orthodontic & Craniofacial Clinical and Translational Research Award; Finalist of International Association for Dental Research (IADR) Orthodontic Research Group, Growth & Development Research Award. Meeting cancelled due to COVID-19 pandemic.***
192. Li, C., Stiles, L., Ting, K., Soo, C., Zheng, Z.: From Skin Biopsy to Musculoskeletal Tissue Regeneration – a Single Protein Reprogramming Approach. (Presented at the 2020 PDM Virtual Research Day)
193. Jiang W, Pang X, **Ting K**, Soo C, Zheng Z. Targeted apoptotic clearance of myofibroblasts in high-mechanical-loading post-surgical wounds. In the 2020 IADR/AADR/CADR General Session, Washinton D.C., USA, March 18-21, 2020. ***Hatton Competition (Post-doctoral Category) finalist, Finalist of International Association for Dental Research (IADR) Craniofacial Biology Research Group, Orthodontic & Craniofacial Clinical and Translational Research Award; Finalist of International Association for Dental Research (IADR) Orthodontic Research Group, Growth & Development Research Award. Meeting cancelled due to COVID-19 pandemic.***
194. Tran L, Luo X, Wu S, Dong N, Pham E, Lee M, Lee T, Tran P, Hom B, Soo C, **Ting K**, Kwak, JH. Nell-1 Inactivation in Osteoblast Causes Hemifacial Microsomia and Postcranial Osteoporosis. Accepted for poster presentation in the IADR/AADR/CADR General Session, March 18-21, 2020. Washington, D.C. *Meeting cancelled due to COVID-19 pandemic.*
195. Maram S, Ha P, Shi J, Tran L, Dong N, Zhang Y, Pan HC, Kim JK, Easley J, **Ting K**, Soo C, Kwak JH. Systemic therapy of bisphosphonate conjugated NELL-PEG reverses osteoporosis in sheep. Accepted for poster presentation in the IADR/AADR/CADR General Session, March 18-21, 2020. Washington, D.C. ***Finalist in the IADR Innovation Award for Excellence in Orthodontics Research. Meeting cancelled due to COVID-19 pandemic.***
196. Dong N, Velicu D, Low J, Tran L, Duong T, Shi J, Nguyen T, Soo C, **Ting K**, JH Kwak. Development of TMJ-OA in Spaceflight and Treatment with BP-NELL-PEG Therapy. Accepted for oral presentation in the 2020 IADR/AADR/CADR General Session, Washington D.C., USA, March 18-21, 2020. ***Finalist in the IADR/AADR Craniofacial Biology Junior Awards Competition. Meeting cancelled due to COVID-19 pandemic.***

197. Zheng Z, Li C, Stiles L, Ha P, **Ting K**, Soo C. Single extracellular matrix molecule reprograms human somatic cells to a safe multipotent stage for tissue regeneration. Poster presentation in the International Society for Stem Cell Research (ISSCR) 2020 Virtual Annual Meeting.
198. Li C, Stiles L, **Ting K**, Soo C, Zheng Z. From Skin Biopsy to musculoskeletal Tissue Regeneration – a Single Protein Reprogramming Approach. Poster presentation in the Penn Dental Medicine Virtual Research Day 2020. *Penn Dental Medicine AADR Travel Award 2020, Junior Investigator Category.*
199. Liu T, Velicu DB, Dong S, Tran L, Maram S, Low J, Shi J, **Ting K**, Soo C, Kwak JH. Spaceflight-Induced Osteoporosis in Non-Weight-Bearing Bone and Treatment with BP-NELL-PEG. American Society for Bone and Mineral Research (ASBMR) Annual Meeting, Sep 2020, WA.
200. Pin Ha, Chenshuang Li, Samantha Lee, Zhong Zheng, **Kang Ting**, Chia Soo, Xinli Zhang. Opposite effects of Cntnap4 knockout in cranial neural crest cells of cranial base and vault. Presented at the 2020 American Society for Bone and Mineral Research Annual Meeting, Seattle, WA, US, September 2020.
201. Velicu D.B., Liu T., Maram S.S., **Ting K.**, Soo B.C., Kwak J.H. Spaceflight-Induced Osteoarthritis in Non-Weight-Bearing Bone and Treatment with BP-NELL-PEG. UCLA Virtual Research Day, February 8th 2021 **1st place in the Master's/Resident Category**
202. Li, C., Stiles, L., Ting, K., Soo, C., Zheng, Z.: From A Skin Biopsy To Musculoskeletal Tissue Regeneration - A Single Protein Reprogramming Approach. (Presented at the 2021 Orthopaedic Research Society Annual Meeting, Long Beach, 2021). **ORS/ON Foundation Orthoregeneration Award, Orthopaedic Research Society (ORS) Annual Meeting**
203. Velicu D.B., Liu T., Dong S., Low J., Tran L., Duong T., Shi J., Nguyen T., Kwak J.H. Development of TMJ-OA in spaceflight and treatment with BP-NELL-PEG therapy. 8<sup>th</sup> Edition of the Virtual World Congress of Dental Students, 20-22 may 2020, Zagreb, Croatia (held online)
204. Wenlu Jiang, XiaoxiaoPang, Zhong Zheng, Kang Ting. Fibromodulin promotes myofibroblast apoptosis in high-tension induced postoperative hypertrophic scars. In the Oral Research program for the 2021 virtual AAO Annual Session.
205. Liu T, Velicu DB, Ha Pin, Tran L, Dong S, Shi J, Kwak JH, **Ting K**, Soo C. Spaceflight-Induced Osteoporosis: Microgravity Effects on Non-Weight-Bearing Bone and Treatment with BP-NELL-PEG. Presented at the Wernher Von Braun Symposium, October 14th 2021, Huntsville, AL. (2nd place winner of Graduate Category)
206. Li, C., Zheng, Z., Soo, C., Ting, K.: Craniosynostosis-Related Molecule Nell-1 Has Distinctive Functions in Neurological Anomalies. (presented at the 2021 General Session and Exhibition of International/American/Canadian Association for Dental Research, 2021).

207. Pin Ha, Justine Tanjaya, Yulong Zhang, Chenchao Wang, Yash Shah, Emily Berthiaume, Hsin Chuan Pan, Jiayu Shi, Jin Hee Kwak, Benjamin Wu, Kang Ting, Xinli Zhang, Chia Soo. Genetic and pharmacologic suppression of PPAR $\gamma$  enhances NELL-1-stimulated bone regeneration. Presented at the 2021 American Society for Bone and Mineral Research Annual Meeting, San Diego, CA, US, October 2021. . (Young Investigator Travel Award)
208. Mason Henrich, Pin Ha, John S. Adams, Chia Soo, Kang Ting, Louis Stodiek, Rene Chun. Alternative splicing regulates the physiological adaptation of the mouse hind limb extensor and flexor muscles to microgravity. Presented at the 2021 American Society for Bone and Mineral Research Annual Meeting, San Diego, CA, US, October 2021.
209. Zheng, Z., Xu, X., Zhang, Y., Ha, P., Li, C., Yen, E., Wu, B., Da Lio, A., Ting, K., Soo, C.: Promoting Functional Recovery Of Tendon Injury By A Novel Injectable Fibromodulin-releasing Granular Hydrogel. ORS 2022 Annual Meeting, Tampa, Florida, 2022.
210. Zheng, Z., Xu, X., Zhang, Y., Ha, P., Li, C., Yen, E., Wu, B., Da Lio, A., Ting, K., Soo, C.: Functional Tendon Injury Recovery Via A Novel Fibromodulin-releasing Granular Hydrogel. PSRC 2022 Annual Meeting, Toronto, Canada, 2022.
211. Zhong Zheng, Xue Xu, Yulong Zhang, Pin Ha, Chenshuang Li, Emily Yen, Benjamin M. Wu, Andrew Da Lio, Kang Ting, Chia Soo. *A novel fibromodulin-releasing granular hydrogel for functional tendon injury recovery*. In the SAWS Spring/WHS 2022 annual meeting, Phoenix, AZ, April 6-10, Winner of the WHF/WHS Translational and Regenerative Science Award.
212. Pin Ha, Samantha Lee, Timothy Liu, Chenshuang Li, Zhong Zheng, Joshua Yang, Ali Mohazeb, Sang Yub Kim, **Kang Ting**, Chia Soo, Xinli Zhang. Cntnap4 Inactivation in Wnt1-expressing Cells Accelerates Cranial Base Synchondrosis Closure. Presented at the 2022 IADR/APR General Session & Exhibition, Chengdu, Sichuan, China, June 2022. (virtual meeting)
213. Liu T., Ha P., Zhang Y., Tran L., Kim S.Y., Yang J., Zheng Z., **Ting K.**, Soo C. “Controlled Delivery of PEGylated, Bisphosphonate-Conjugated NELL-1 for Cartilage Regeneration in an In Vivo Rat Model.” Plenary Oral Presentation at Senior Scholarship Day 2023 at David Geffen School of Medicine at UCLA. Los Angeles, CA, March 16 2023

### **Book Chapters:**

Law C, Ting K: "Presurgical Orthodontics and Orthopedics" Handbook of Plastic and Reconstructive Surgery. (2004)

Cowan CM, Soo B, Ting K, Wu B: “Evolving Concepts in Bone Tissue Engineering” Chapter 8, Current Topics in Developmental Biology, Volume 66, 2005.

Meyers C, Hindle P, Hardy W, Xu J, Yan N, Broderick K, Astarian G, Ting K, Soo C, Peault B, James AW. Perivascular progenitor cells for bone regeneration. Regenerative Medicine in Plastic Surgery: Art, Science and Principles, 2017.

### **Review Articles:**

Ting K, Turley P: "Details in Finishing Orthodontic Cases" PCSO Bulletin. Spring, 1995.

Beanes SR, Soo C, Dang C, and Ting K: "Ontogeny of Expression of Transforming Growth Factor- $\beta$  1 (TGF- $\beta$ 1), TGF- $\beta$  3, and TGF- $\beta$  receptors I and II in Fetal Rat Fibroblasts and Skin." *Plast Reconstr Surg.* 107(7): 1795-6, 2001. (invited discussion)

Beanes S, Dang C, Soo C, Ting K: "Skin repair and Scar Formation: The Central Role of TGF- $\beta$ ." *Exp Rev Mol Med.* (DOI: 10.1017/S1462399403005817), 2003.

Dang C, Ting K, Soo C, Longaker MT, and Lorenz HP: Fetal Wound Healing: Current Perspectives. *Clinics in Plastic Surgery* 30(1): 13-23, 2003.

Murphy M, Ting K, Zhang X, Soo C, and Zheng Z. Current development of silver nanoparticle preparation, investigation, and application in medicine field. *Journal of Nanomaterials* 2015, Article ID 696918.

### **Patents:**

#### **Issued:**

- 1 9,598,480 Recombinant NEL-like (NELL) protein production
- 2 9,549,954 Method and composition for inducing human pluripotent stem cells
- 3 9,511,115 Pharmaceutical compositions for treating or preventing bone conditions
- 4 9,447,155 Isoform Nell-1 peptide
- 5 9,301,976 Compositions comprising perivascular stem cells and nell-1 protein
- 6 9,089,677 Transcutaneous multimodal delivery system (TMDS)
- 7 8,207,120 NELL-1 enhanced bone mineralization
- 8 8,053,412 NELL-1 peptides
- 9 8,048,646 NELL peptide expression systems and bone formation activity of NELL peptide
- 10 8,044,026 Composition for promoting cartilage formation or repair comprising a NELL gene product and method of treating cartilage-related conditions using such composition
- 11 7,884,066 NELL-1 enhanced bone mineralization
- 12 7,833,968 Pharmaceutical compositions for treating or preventing bone conditions
- 13 7,807,787 NELL-1 peptide
- 14 7,776,361 NELL-1 enhanced bone mineralization
- 15 7,691,607 Expression system of NELL peptide



16 7,687,462 Composition for promoting cartilage formation or repair comprising a nell gene product and method of treating cartilage-related conditions using such composition  
17 7,544,486 Nell peptide expression systems and bone formation activity of nell peptide  
18 7,052,856 NELL-1 enhanced bone mineralization  
19 9,409,963 Fibromodulin peptide

**Pre-issuance:**

1 20170190756 RECOMBINANT NEL-LIKE (NELL) PROTEIN PRODUCTION  
2 20170165323 PHARMACEUTICAL COMPOSITIONS FOR TREATING OR PREVENTING BONE CONDITIONS  
3 20170159022 METHOD AND COMPOSITION FOR INDUCING HUMAN PLURIPOTENT STEM CELLS  
4 20170159021 METHOD AND COMPOSITION FOR INDUCING HUMAN PLURIPOTENT STEM CELLS  
5 20170042968 ISOFORM NELL-1 PEPTIDE  
6 20160271186 COMPOSITIONS COMPRISING PERIVASCULAR STEM CELLS AND NELL-1 PROTEIN  
7 20140369971 METHOD AND COMPOSITION FOR INDUCING HUMAN PLURIPOTENT STEM CELLS  
8 20140336367 RECOMBINANT NEL-LIKE (NELL) PROTEIN PRODUCTION  
9 20130309207 COMPOSITIONS COMPRISING PERIVASCULAR STEM CELLS AND NELL-1 PROTEIN  
10 20120244128 Perivascular Stem Cell Composition For Bone  
11 20120237560 Cardiac Compositions  
12 20120220981 Transcutaneous Multimodal Delivery System (TMDS)  
13 20120077742 Expression System Of NELL Peptide  
14 20120065574 ISOFORM NELL-1 PEPTIDE  
15 20110300184 PHARMACEUTICAL COMPOSITIONS FOR TREATING OR PREVENTING BONE CONDITIONS  
16 20110263835 RECOMBINANT NELL PROTEIN PRODUCTION  
17 20110212893 NELL-1 ENHANCED BONE MINERALIZATION  
18 20110044956 NELL-1 ENHANCED BONE MINERALIZATION  
19 20100249376 NELL Peptide Expression Systems and Bone Formation Activity of NELL Peptide  
20 20100137218 Expression System of NELL Peptide  
21 20100136087 Composition for Promoting Cartilage Formation or Repair Comprising a NELL Gene Product and Method of Treating Cartilage-Related Conditions Using Such Composition  
22 20090226505 NELL Peptide Expression Systems and Bone Formation Activity of NELL Peptide  
23 20090060988 Nell-1 enhanced bone mineralization

24 20090053311 Pharmaceutical Compositions for Treating or Preventing Bone Conditions  
25 20090047275 Nell-1 enhanced bone mineralization  
26 20080274186 NELL-1 enhanced bone mineralization  
27 20070134291 Composition for cartilage  
28 20070128697 Expression system of NELL peptide  
29 20060292670 Nell peptide expression systems and bone formation activity of nell peptide  
30 20060228392 NELL-1 enhanced bone mineralization  
31 20060111313 Nell-1 enhanced bone mineralization  
32 20030158602 NELL-1 ENHANCED BONE MINERALIZATION

**Press Release/ Public Interview:**

[http://www.ucla.edu/bulletin/news\\_bone.html](http://www.ucla.edu/bulletin/news_bone.html)

<http://www.dailybruin.ucla.edu/news/articles.asp?ID=32768>

<http://uclasod.dent.ucla.edu/Research/index.asp?id=547>

<http://newsroom.ucla.edu/page.asp?RelNum=6075>

Medical News Today (UK) - New method to generate human bone  
PhysOrg.com - Researchers Discover New Method to Generate Human Bone

The American Association for the Advancement of science (AAAS)  
Researchers Discover New Method to Generate Human Bone  
[http://www.eurekalert.org/pub\\_releases/2005-04/uoc--urd042105.php](http://www.eurekalert.org/pub_releases/2005-04/uoc--urd042105.php)

MyDNA.com - New method to generate human bone  
The Los Angeles Business Journal

Adipose provides cells for bone repair, Stem Cells Portal, October 12, 2012.

Protein NELL-1 stimulates significant bone growth, SciTech Daily, July 1, 2015.

New bone repair treatment strategy, Pharmaceutical Processing, January 6, 2016.

New strategy aims to enhance efficacy, safety of bone repair treatment, Science Daily, January 6, 2016.

Protein combination improves bone regeneration. UCLA Newsroom, January 28, 2016.

Protein combination improves bone regeneration, study shows. Science Daily, January 30, 2016.

UCLA Eli & Edythe Broad Center of Regenerative Medicine & Stem Cell Research (1/22/2015): Growing Bone in Space: UCLA and CASIS Announce Pioneering Collaborative Study to Test Therapy for Bone Loss on the International Space Station. <https://stemcell.ucla.edu/news/growing-bone-space-ucla-and-casis-announce-pioneering-collaborative-study-test-therapy-bone-loss>

UCLA Eli & Edythe Broad Center of Regenerative Medicine & Stem Cell Research (6/29/2015): UCLA study reveals bone-building protein's impact on bone stem cells. <https://stemcell.ucla.edu/news/ucla-study-reveals-bone-building-protein's-impact-bone-stem-cells>

NASA News Release (2/17/2015): Research With Space Explorers May One Day Heal Earth's Warriors. [http://www.nasa.gov/mission\\_pages/station/research/news/NELL-1/](http://www.nasa.gov/mission_pages/station/research/news/NELL-1/)

UCLA Newsroom (1/22/2015): UCLA and CASIS to collaborate on International Space Station study of possible therapy for bone loss. <http://newsroom.ucla.edu/releases/ucla-and-casis-to-collaborate-on-international-space-station-study-of-possible-therapy-for-bone-loss>

NIH/NIAMS Update (3/19/2015): Research With Space Explorers May One Day Heal Earth's Warriors. [http://www.niams.nih.gov/News\\_and\\_Events/NIAMS\\_Update/2015/MarchNews.asp](http://www.niams.nih.gov/News_and_Events/NIAMS_Update/2015/MarchNews.asp)

American Dental association ADA News (2/19/2015): Bone research in space engages dental faculty. <http://www.ada.org/en/publications/ada-news/2015-archive/february/bone-research-in-space-engages-dental-faculty>

American associate on of Orthodontists Foundation (2/16/2015): Bone Loss Therapy to be Studied on International Space Station. <http://www.aaofoundation.net/Portals/0/News-Release-International-Space-Station-18feb15.pdf>

Daily Bruin (4/7/2015): Orthopedic research at UCLA to send rodents to space. <http://dailybruin.com/2015/02/13/orthopedic-research-at-ucla-to-send-rodents-to-space/>

Shen J, James AW, Zhang X, Pang S, Zara JN, Asatrian G, Chiang M, Lee M, Khadarian K, Nguyen A, Lee KS, Siu RK, Tetradis S, **Ting K (co-corresponding and senior author)**, Soo C. Novel Wnt regulator NELL-1 antagonizes adipogenesis and augments osteogenesis induced by BMP2. Am J Pathol. **Article selected by AJP for press release (1/6/2016):** New Strategy Aims to Enhance Efficacy and Safety of Bone Repair Treatment. <https://www.elsevier.com/about/press-releases/research-and-journals/new-strategy-aims-to-enhance-efficacy-and-safety-of-bone-repair-treatment>.

#### Press Release related to NASA project

Date	Source	Author	Headline	Traffic/Month
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May 8 2019	Foundation For Biomedical Research	Nelia Dashiell	<a href="#"><u>Mice in Space: Taconic Mice Included on Launch to International Space Station</u></a>	-
August 8 2018	ISS National Lab	Amelia Williamson Smith	<a href="#"><u>ISS R&amp;D Award for Innovation in Biology and Medicine</u></a>	-
August 7 2018	Seeker	Amelia Williamson Smith	<a href="#"><u>Osteoporosis Treatment Shows Promise Aboard the International Space Station</u></a>	549K
July 25 2018	NASA	Michael Johnson	<a href="#"><u>NASA Honors Those Conducting Innovative Space Station Research in 2017</u></a>	35M
November 30 2017	Journal of Ergonomics	Martin Braddock	<a href="#"><u>Ergonomic Challenges for Astronauts during Space Travel and the Need for Space Medicine</u></a>	-
October 27 2017	Nature.com - Lab Animal	Ellen P. Neff	<a href="#"><u>News Feature - Mus musculus ad astra</u></a>	-
July 28 2017	Spaceflight Insider	Lloyd Campbell	<a href="#"><u>SOYUZ MS-05 Successfully Launches Three-Man Crew To The ISS</u></a>	-
July 12 2017	American Association of Orthodontists	-	<a href="#"><u>AAO Member's Bone Study Underway on International Space Station</u></a>	225K
July 12 2017	Microphotonics Blog	Sumita Chandiramani	<a href="#"><u>Growing Bone in Space: Studying Spaceflight-induced Osteoporosis (OP) with Micro-CT</u></a>	-
July 11 2017	UCLA Health	Tiare Dunlap	<a href="#"><u>What space-traveling mice could mean for people with osteoporosis</u></a>	2M
July 8 2017	Dialy Breeze	Sandy Mazza	<a href="#"><u>Back home with researchers, more science ahead for 'mice-tronauts'</u></a>	488K
July 8 2017	Pasadena Star News	Sandy Mazza	<a href="#"><u>Meet the mice who soared through space and back again</u></a>	241K
July 7 2017	Micro Photonics	-	<a href="#"><u>Growing Bone in Space: Studying Spaceflight-induced Osteoporosis with Micro-CT</u></a>	-
July 6 2017	Woreless Tech	Agis F	<a href="#"><u>Dragon return captured from Space Station</u></a>	-
July 6 2017	Aero News Network	-	<a href="#"><u>Another SpaceX First: Second Splashdown For A Dragon Spacecraft</u></a>	82K
July 5 2017	SpaceRef	-	<a href="#"><u>NASA Space Station On-Orbit Status 4 July 2017 - Happy 4th of July</u></a>	120K
July 5 2017	Dialy Breeze	Sandy Mazza	<a href="#"><u>Return of the space mice! SpaceX's reflight Dragon lands in San Pedro packed with science galore</u></a>	488K

July 4 2017	DailyMail.com	Mark Prigg	<a href="#"><u>Back to Earth with a splash: SpaceX Dragon becomes the first recycled spacecraft to fly TWO missions as it is recovered from the Pacific Ocean following its historic landing</u></a>	225M
July 4 2017	Daily Breeze	Sandy Mazza	<a href="#"><u>SpaceX takes third shot at Intelsat launch today at 4:37 p.m.</u></a>	488K
July 4 2017	RT.com	-	<a href="#"><u>Record-breaking SpaceX Dragon returns from ISS with huge NASA cargo (PHOTOS, VIDEOS)</u></a>	-
July 4 2017	Aerospace-technology.com	-	<a href="#"><u>SpaceX's Dragon cargo capsule returns to Earth</u></a>	-
July 3 2017	Pulse Headlines	Adriana Bello	<a href="#"><u>SpaceX's Dragon capsule returns to Earth after month-long trip to the ISS</u></a>	-
July 3 2017	San Gabroel Valley Tribune	Sandy Mazza	<a href="#"><u>Aiming to avoid third straight 'abort,' SpaceX's Musk delays launch until Wednesday</u></a>	424K
July 3 2017	CNET	Eric Mack	<a href="#"><u>SpaceX Dragon's second splashdown is a historic first</u></a>	158M
July 3 2017	GeekWire	Chelsey Ballarte	<a href="#"><u>Recycled SpaceX Dragon capsule makes history with its second splashdown</u></a>	1M
July 3 2017	Space.com	Jesse Emspak	<a href="#"><u>'There Goes Dragon': ISS Astronaut Snaps Incredible Shots of Departing Capsule</u></a>	15M
July 3 2017	The Mercury News	Bay Area News Group	<a href="#"><u>SpaceX Dragon capsule reenters Earth's atmosphere in this amazing photo</u></a>	8M
July 3 2017	Daily Breeze	Sandy Mazza	<a href="#"><u>SpaceX's Dragon, the first ever reflown private spacecraft, has returned to earth</u></a>	488K
July 3 2017	Blogs.nana.gov	Steven Sicheloff	<a href="#"><u>Dragon Splashes Down to Complete Resupply Mission</u></a>	35M
July 3 2017	Los Angeles Daily News	Bay Area News Group	<a href="#"><u>See SpaceX Dragon capsule reenter Earth's atmosphere in this amazing photo</u></a>	1M
July 3 2017	DailyMail.com	Mark Prigg	<a href="#"><u>Spot the Dragon! Astronaut captures the moment SpaceX's historic first recycled capsule re-enters Earth's atmosphere before splashing down</u></a>	225M
July 3 2017	Spaceflight Now	Stephen Clark	<a href="#"><u>Dragon capsule returns home with animals and station equipment</u></a>	1M
July 3 2017	Parabolic Arc	Doug Messier	<a href="#"><u>Reused Dragon Spacecraft Splashes Down in Pacific</u></a>	-

July 3 2017	Spaceflight Insider	Derek Richarson	<a href="#"><u>Dragon splashes down in Pacific with time-critical experiments</u></a>	-
July 3 2017	News Ledge	Alex Chavers	<a href="#"><u>A SpaceX Dragon Capsule Went To the ISS and Back Again for the Second Time (UPDATE)</u></a>	54K
July 3 2017	Engadget	Jon Fingas	<a href="#"><u>SpaceX's capsule 're-flight' is a space travel milestone</u></a>	45M
July 3 2017	NASAspaceflight.com	Chris Gebhardt	<a href="#"><u>Reused Dragon returns to Earth after month-long science bonanza</u></a>	1M
July 1 2017	SpaceRef	-	<a href="#"><u>NASA Space Station On-Orbit Status 30 June 2017 - SpaceX Splashdown Rescheduled to July 3</u></a>	120K
June 30 2017	SpaceRef	-	<a href="#"><u>NASA Space Station On-Orbit Status 29 June 2017 - Dragon Set for Return to Earth and Extremophiles Research</u></a>	120K
June 28 2017	NASA	-	<a href="#"><u>Systematic Therapy of NELL-1 for Osteoporosis (Rodent Research-5) (RR-5)</u></a>	-
June 29 2017	SpaceRef	-	<a href="#"><u>NASA Space Station On-Orbit Status 28 June 2017 - Dragon Being Packed for Sunday Departure</u></a>	120K
June 23 2017	SpaceRef	-	<a href="#"><u>NASA Space Station On-Orbit Status 22 June 2017 - New Drug Therapy Research</u></a>	120K
June 22 2017	SpaceFellowShip	Klaus Schmidt	<a href="#"><u>Station Crew Studies Bone Loss Reversal and Unloads New Cargo</u></a>	-
June 21 2017	SpaceRef	-	<a href="#"><u>NASA Space Station On-Orbit Status 20 June 2017 - Loading the Dragon Spacecraft</u></a>	120K
June 19 2017	SpaceFellowShip	Klaus Schmidt	<a href="#"><u>Station Kicks off Week with Solar Array Study and Biological Research</u></a>	-
June 16 2017	SpaceRef	-	<a href="#"><u>NASA Space Station On-Orbit Status 14 June 2017 - Unpiloted ISS Progress 67 Cargo Spacecraft Launched</u></a>	120K
June 16 2017	Beverly Hills Courier	Laura Coleman	<a href="#"><u>Beverly Hills Doctors Send Mice To Space As One Giant Step To Cure Osteoporsis</u></a>	31K
June 15 2017	Royal Osteoporosis Society	-	<a href="#"><u>Mice sent to space on mission to find out more about bone loss</u></a>	-
June 13 2017	SpaceRef	-	<a href="#"><u>NASA Space Station On-Orbit Status 12 June 2017 - Getting Ready for Another Resupply Mission</u></a>	120K

June 12 2017	SpaceRef	-	<a href="#"><u>NASA Space Station On-Orbit Status 9 June 2017 - Rodent Research-5 Systemic Therapy of NELL-1 for Osteoporosis</u></a>	120K
June 7 2017	The Evolving Planet	Donna Mapacpac	<a href="#"><u>Mice were sent to space to test a bone-building drug developed at UCLA</u></a>	-
June 7 2017	Outsourcing - Pharma.com	Melissa Fassbender	<a href="#"><u>Mice in microgravity: how rodent research in space accelerates study timelines</u></a>	-
June 6 2017	Universe Today	Ken Kremer	<a href="#"><u>Reused SpaceX Dragon Supply Ship Arrives Space Station, Cygnus Departs, Falcon 9 Launch &amp; Landing: Photos/Videos</u></a>	2M
June 5 2017	The Stem Cellar - The Official Blog of CIRM, California's Stem Cell Agency	Karen Ring	<a href="#"><u>Latest space launch sends mice to test bone-building drug</u></a>	-
June 4 2017	Universe Today	Ken Kremer	<a href="#"><u>1st Recycled SpaceX Dragon Blasts Off for Space Station on 100th Flight from Pad 39A with Science Rich Cargo and Bonus Booster Landing: Gallery</u></a>	2M
June 3 2017	Science Alert	Amy Thompson	<a href="#"><u>SpaceX Launches Cargo Mission Number 11 Reusing an Old Dragon</u></a>	10M
June 3 2017	Collect Space	-	<a href="#"><u>SpaceX launches first 'used' Dragon cargo capsule on 100th flight from NASA pad</u></a>	420K
June 3 2017	Spaceflight Now	Stephen Clark	<a href="#"><u>Reused Dragon cargo capsule launched on journey to space station</u></a>	1M
June 3 2017	Los Angeles Daily News	Sandy Mazza	<a href="#"><u>SpaceX delivers 11th payload to International Space Station for NASA</u></a>	1M
June 3 2017	MarketWatch	NASA	<a href="#"><u>New NASA Experiments, Research Headed to International Space Station</u></a>	64M
June 3 2017	Spaceflight Now	Stephen Clark	<a href="#"><u>SpaceX rocket again set for space station delivery after scientists swap mice, fruit flies</u></a>	1M
June 3 2017	PBS	Kamala Kelkar	<a href="#"><u>SpaceX aims for history with latest rocket launch</u></a>	20M
June 2 2017	The New York Times	Kenneth Chang	<a href="#"><u>Fruit Flies and Mice to Get New Home on Space Station, at Least Temporarily</u></a>	283M
June 2 2017	Medical Xpress	Mirabai Vogt-James	<a href="#"><u>Mice headed for space to test bone-building drug</u></a>	3M

June 2 2017	Breitbart	UPI	<a href="#"><u>Mice headed to International Space Station to test osteoporosis drug</u></a>	63M
June 2 2017	UPI.com	Amy Wallace	<a href="#"><u>Mice headed to International Space Station to test osteoporosis drug</u></a>	6M
June 2 2017	AllMediaNY	-	<a href="#"><u>Mice Headed To Space Station To Test Bone Drug</u></a>	-
June 2 2017	Wochit News	-	<a href="#"><u>Mice Headed To Space Station To Test Bone Drug</u></a>	121K
June 2 2017	StemCell Therapy	Sykes24Tracey	<a href="#"><u>SpaceX to launch heart, bone health experiments to space station – CU Boulder Today</u></a>	-
June 1 2017	ISS, The Center for the Advancement of Science in Space, Inc.	Amelia Williamson Smith	<a href="#"><u>Upward: Magazine of the ISS Lab (June 2018 Issue)</u></a>	-
June 1 2017	Globe News Wire	Taconic Biosciences	<a href="#"><u>Mice in Space: Taconic Mice Included on Launch to International Space Station</u></a>	3M
May 31 2017	Universe Today	Ken Kremer	<a href="#"><u>100th Blastoff from Historic Pad 39A Features SpaceX Resupply to Space Station and Land Landing June 1: Watch Live</u></a>	2M
May 31 2017	NASA	-	<a href="#"><u>What's On Board Next Space Station Supply Mission</u></a>	4M
May 31 2017	CU Boulder Today	Jim Scott	<a href="#"><u>SpaceX launches CU-built heart, bone health experiments to space station</u></a>	-
May 30 2017	Spaceflight Insider	Bart Leahy	<a href="#"><u>More science, reused Dragon capsule featured on CRS-11</u></a>	-
May 26 2017	GlobalNewsWire	CASIS	<a href="#"><u>Over 40 U.S. National Laboratory Sponsored Experiments on SpaceX CRS-11 Destined for the International Space Station</u></a>	3M
May 26 2017	ISS National Lab	-	<a href="#"><u>ISS National Lab SpaceX CRS-11 Payload Overview: UCLA</u></a>	-
May 25 2017	NASA	Yael Kovo	<a href="#"><u>Rodent Research-5 (SpaceX-11)</u></a>	35M
May 24 2017	NASA Johnson	-	<a href="#"><u>Growing Bone in Space</u></a>	424K
May 22 2017	ExecutiveBiz	Jane Edwards	<a href="#"><u>SpaceX Sets June 1 Launch for 11th ISS Commercial Resupply Mission</u></a>	39K
May 22 2017	SpaceDialy	Jenny Howard	<a href="#"><u>SpaceX Dragon to deliver research payloads to Space Station</u></a>	-
May 22 2017	Space Coast Daily	NASA	<a href="#"><u>SpaceX Set To Launch Dragon Spacecraft On June 1 From KSC For Resupply Mission To ISS</u></a>	366K



May 16 2017	Spacepolicyonline	-	<a href="#"><u>NASA Media Telecon On What's Aboard SpX-11, May 2017, virtual</u></a>	55K
May 9 2017	Geek Wire	Chelsey Ballarte	<a href="#"><u>From drugs to fruit flies: What SpaceX took to the International Space Station</u></a>	1M
May 8 2017	Universe Today	Ken Kremer	<a href="#"><u>Reused SpaceX Dragon Supply Ship Arrives Space Station, Cygnus Departs, Falcon 9 Launch &amp; Landing: Photos/Videos</u></a>	2M
May 8 2017	Phys.org	Jenny Howard	<a href="#"><u>SpaceX Dragon to deliver research to Space Station</u></a>	11M
May 8 2017	SpaceRef	-	<a href="#"><u>NASA Space Station On-Orbit Status 7 June 2017 - New NanoRacks Module Installed</u></a>	120K
May 7 2017	NewsFix	Mike H.	<a href="#"><u>NewsFix in Space: Space X Dragon docked at ISS and Saturn's moon 'tipped over?'</u></a>	-
May 7 2017	The Mining Journal	Marvia Dunn	<a href="#"><u>Space station welcomes 1st returning vehicle since shuttle</u></a>	-
May 6 2017	Pulse Headline	Daniel Francis	<a href="#"><u>SpaceX Dragon capsule becomes first traveling module to reach the ISS since space shuttle</u></a>	-
May 6 2017	KCEN	Marcia Dunn	<a href="#"><u>International Space Station welcomes SpaceX Dragon</u></a>	377K
May 5 2017	U.S. News	Marvia Dunn	<a href="#"><u>Space Station Gets Company</u></a>	37M
May 4 2017	The Tech News	Selene Kyle	<a href="#"><u>SpaceX successfully launches refurbished Dragon capsule for a cargo mission to the ISS</u></a>	-
Jan 29 2016	Science Daily	Brianna Aldrich	<a href="#"><u>Protein combination improves bone regeneration, study shows</u></a>	12M
July 01 2015	Plastic Surgery News	Jim Leronardo	<a href="#"><u>Plastic surgeon's research headed to International Space Station</u></a>	-
Feb 19 2015	American Dental Association	Craig Palmer	<a href="#"><u>Bone research in space engages dental faculty</u></a>	1M
Feb 17 2015	NASA	Kristine Rainey	<a href="#"><u>Research With Space Explorers May One Day Heal Earth's Warriors</u></a>	35M
Jan 25 2015	VOX	Megan Thielking	<a href="#"><u>Why scientists are growing bones on the International Space Station</u></a>	38M
Jan 23 2015	Medical News Today	James McIntosh	<a href="#"><u>New bone growth therapy to be tested in space</u></a>	74M
Jan 22 2015	Science Daily	UCLA Eli and Edythe Broad Center	<a href="#"><u>Growing bone in space: Study to test therapy for bone loss on the International Space Station</u></a>	12M

Jan 22 2015	Redorbit	Brett Smith	<u>Growing bone in space: UCLA, CASIS, NASA team up to test stem cells and bone degeneration</u>	-
Jan 22 2015	UCLA Broad Stem Cell Research Center	Peter Bracke	<u>Growing bone in space: UCLA and CASIS announce pioneering collaborative study to test therapy for bone loss on the international space station</u>	-

News release relating IOF:

<https://finance.yahoo.com/news/iofs-international-orthodontic-symposium-highlights-014800698.html>

<https://www.benzinga.com/content/33088079/iofs-international-orthodontic-symposium-pushes-boundaries-with-innovative-research-and-global-colla>

<https://www.investorsobserver.com/news/qm-pr/8068371101564063>

<https://www.globenewswire.com/en/news-release/2023/03/27/2635150/0/en/IOF-Research-Grants-Aim-to-Enhance-Clinical-Transformation-Reviews-Completed.html>

[https://www.cfbond.com/2023/06/28/wap\\_991018754.html](https://www.cfbond.com/2023/06/28/wap_991018754.html)

<http://sqtv.net/news/bencandy.php?fid=138&id=233692>

<https://m.tech.china.com/hea/hea/20230612/202306121321249.html>

<https://news.sina.cn/sx/2022-06-23/detail-imizirav0116581.d.html>

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[http://www.hkcd.com/hkcdweb/content\\_p/2023/06/30/content\\_155562.html](http://www.hkcd.com/hkcdweb/content_p/2023/06/30/content_155562.html)

<https://www.businesswire.com/news/home/20220502005368/en/The-1st-IOF-International-Orthodontic-Symposium-will-be-held-in-Shanghai-this-June>