

**CURRICULUM VITAE (08/20)**  
**CHING-CHANG KO DDS, MS, PhD**

**PERSONAL INFORMATION**

Office Address                      4088A Postle Hall  
   305 W. 12<sup>th</sup> Ave.  
   Division of Orthodontics  
   Ohio State University  
   Columbus, OH 43210  
   Telephone: (614) 688-3146  
   Email: [Ko.367@osu.edu](mailto:Ko.367@osu.edu)



**EDUCATION**

<u>Institution</u>	<u>Degree</u>	<u>Date Conferred</u>	<u>Major</u>
University of Minnesota	Certificate	June 2006	Orthodontics
University of Michigan	PhD	June 1994	Bioengineering and Biomaterials
National Yang-Ming University, Taiwan, R.O.C.	MS	June 1989	Bioengineering
Kaohsiung Medical College, Taiwan, R.O.C.	DDS	June 1984	Dentistry

Licensure and Certification

2020-present    Ohio State University Dental Faculty Practice License 71.000265  
2006-2020      North Carolina Dental Faculty Practice License 0079  
2004-2006      Minnesota Residency Practice License  
1984-present    Dental Practice License, Taiwan, R.O.C.  
NPI              1225245525

Specialty Certification

2007-2022      Diplomate, American Board Orthodontics

## **PROFESSIONAL EXPERIENCE**

### Academic Appointments

- 2020-present Professor and Vig/William Endowed Chair, Division of Orthodontics, the Ohio State University, Columbus, OH.
- 2017-2019 Chair, Department of Orthodontics, University of North Carolina- Chapel Hill.
- 2014-2020 Hale Distinguished Professor, Department of Orthodontics, University of North Carolina- Chapel Hill.
- 2014-2018 Program Director, Department of Orthodontics, University of North Carolina- Chapel Hill.
- 2014-2017 Vice Chair, Department of Orthodontics, University of North Carolina- Chapel Hill.
- 2013-2014 Interim Program Director, Department of Orthodontics, University of North Carolina- Chapel Hill.
- 2012-2020 Tenured Professor, Department of Orthodontics, School of Dentistry, University of North Carolina
- 2010-2013 Adjunct Professor, Department of Materials Sciences and Engineering School of Engineering, North Carolina State University
- 2006-2012 Tenured Associate Professor, Department of Orthodontics, School of Dentistry, University of North Carolina
- 1999-2006 Graduate Faculty Member, Biophysics Program, University of Minnesota
- 1997-2006 Assistant Professor, Department of Oral Science, School of Dentistry, University of Minnesota
- 1994-1997 Research Associate, Department of Oral Science, School of Dentistry, University of Minnesota
- 1990-1994 Graduate Research Assistant, Department of Biological and Materials Sciences University of Michigan
- 1987-1989 Graduate Research Assistant, Biomedical Engineering, National Yang-Ming Medical University, Taiwan, R.O.C.

### Dental Practice

- 1984-1986 Army Dentist, Military Service, Taiwan, R.O.C.
- 1986-1987 Dentist, Private Dental Office, Taipei, Taiwan, R.O.C.
- 2004-2006 Resident License, University of Minnesota School of Dentistry, MN, USA
- 2006-2020 Instructor License, University of North Carolina School of Dentistry, NC, USA
- 2020- Limited Teaching License, Ohio State Dental Board, OH, USA

### **Specialty**

- 2007-2022 Diplomat, American Board of Orthodontist

## BIBLIOGRAPHY

### Book Chapters

1. Wu T-H and **Ko CC**. Biomechanical Simulations for Various Clinical Scenarios Treated with TADs. Ed. Park JH. Temporary Anchorage Devices in Clinical Orthodontics. John Wiley & Sons, Inc. 2020. pp27-35.
2. **Ko CC**, Tanikawa C, Wu T\_H, Pastewait M, Jackson CB, Kwon JJ, Lee Y-T, Lian C, Wang L, and Shen D. Machine Learning in Orthodontics: Application Review. In Preparation. In: McNamara Jr JA, Kim H, eds. Embracing Novel Technologies in Dentistry and Orthodontics. Monograph 56, Craniofacial Growth Series, Department of Orthodontics and Pediatric Dentistry and Center for Human Growth and Development, University of Michigan, Ann Arbor; 2020. pp117-135.
3. **Ko CC**, Chen S, Zhang H. Mechanical properties of various archwires and their clinical application in the PASS system. In Physiologic Anchorage Control - A New Orthodontic Concept and its Clinical Application. Ed. Xu TM. Spring Nature. 2017: pp71-85.
4. Chen H, Lee D-J, Zhang H, Arnold R, **Ko CC**. Antimicrobial effects of formable gelatinous hydroxyapatite-calcium silicate nanocomposites for biomedical applications. In Advances in Bioceramics and Porous Ceramics VII. Jan. 2015. DOI: 10.1002/9781119040392.ch3
5. **Ko CC**, Wang Z, Tseng, H, Lee DJ, Guez C. Design, synthesis, and evaluation of polydopamine-laced gelatinous hydroxyapatite nanocomposites for orthopedic applications. In Advances in Bioceramics and Biotechnologies II: Ceramic Transactions. ed. by Joanna McKittrick, Roger Narayan, Hua-Tay Lin. Wiley. 2014: Vol 247:135-148.
6. **Ko CC**, Rocha E, Larson M. Past, present, and future of finite element analysis in dentistry. In: Moratal D, ed., Finite Element Analysis - From Biomedical Applications to Industrial Developments. InTech-Open Access: [www.intechopen.com](http://www.intechopen.com). Croatia, 2012: 3-24.
7. **Ko CC**, Ferreira J, Myers S. Developing Future Bioceramics for Temporomandibular Joint Tissue Engineering. In: McNamara Jr JA, Kapila SD, eds. Temporomandibular Disorders and Orofacial Pain: Separating Controversy from Consensus. Monograph 46, Craniofacial Growth Series, Department of Orthodontics and Pediatric Dentistry and Center for Human Growth and Development, University of Michigan, Ann Arbor; 2009: 311-51.
8. Velly AM, Look J, Myers S, **Ko CC**, Kaimal S, Ferreira J, Springsteen J, Schiffman E, Rhodus N, Friction J. Temporomandibular Muscle and Joint Disorders: Progress in Research with NIDCR's TMJ Implant Registry and Repository. In: McNamara JA Jr, Kapila SD, eds. Temporomandibular Disorders and Orofacial Pain: Separating Controversy from Consensus. Monograph 46, Craniofacial Growth Series, Department of Orthodontics and Pediatric Dentistry and Center for Human Growth and Development, University of Michigan, Ann Arbor; 2009: 265-81.
9. **Ko CC**, Somerman MJ, An K-N. Motion and bone regeneration. In: Bronner F, Farach-Carson MC, Mikos AG, eds. Engineering of Functional Skeletal Tissues, Volume 3 in Topics in Bone Biology series. Springer-Verlag London Limited; 2007: 110-28.
10. Kohn DH, **Ko CC**, Hollister SJ, Snoeyink D, Awerbuch J, Ducheyne P. Methods of detecting and predicting microfracture in titanium. In Brown SA, Lemons JE, eds., *Medical applications of titanium and its alloys: the material and biological issues*, ASTM STP 1272. American Society for Testing and Materials, Philadelphia, PA: 1996:117-35.

Journal Articles (Peer-Reviewed)

1. Wang X, Pastewait M, Tejera B, Wu T-H, Lee Y-T, Lin F-C, Wang L, Shen D, Li S, **Ko CC**. 3D maxilla and defect quantification using AI-derived automatic segmentation for patients with unilateral cleft lip and palate. In preparation. 2020.
2. Jacox L, Bocklage C, Edwards T, Mihas P, Lin F-C, **Ko CC**. Understanding technology adoption by orthodontists: A quantitative study. Submitted to *AJODO*. 2020.
3. Jacox L, Tang N, Li Y, Bocklage C, Coats S, Graves C, Miao M, Kwon J, Giduz N, Lin F-C, Martinez J, **Ko CC**. Orthodontic loading activates cell-specific autophagy in a force-dependent manner. Resubmitted to *AJODO*, 2020.
4. Li Y, Jacox L, Coats S, Kwon J, Xue P, Tang N, Zou R, Wang X, Kim Y-I, Wu TJ, Lee Y-T, Wong SW, Chien CH, Cheng C-W, Gross R, Lin F-C, Tseng H, Martinez J, **Ko CC**. Roles of Autophagy in Orthodontic Tooth Movement. 2020. In Press. *AJODO*. PMC Journal – In Process.
5. Deng M, Tam JW, Wang L, Liang K, Li S, Zhang L, Guo H, Luo X, Zhang Y, Petrucelli A, Davis BK, Conti BJ, Brickey WJ, **Ko CC**, Lei YL, Sun S, Ting J P-Y. TRAF3IP3 negatively regulates cytosolic RNA induced anti-viral signaling by promoting TBK1 K48 ubiquitination. *Nat Commun*, 2020;11(1):2193.
6. Lian C, Wang L, Wu T-H, Wang F, Yap P-T, **Ko CC**, and Shen D. Deep Multi-Scale Mesh Feature Learning for Automated Labeling of Raw Dental Surfaces from 3D Intraoral Scanners." *IEEE Transactions on Medical Imaging, IEEE Xplore*. 2020. 39(7): 2440-2450. DOI: 10.1109/TMI.2020.2971730. PMID: 32031933
7. Cheng C-W, Ye S-Y, Chien C-H, Chen C-J, Papaspyridakos P, **Ko CC**. Randomized clinical trial of conventional and a digital workflow for the fabrication of interim crowns: An evaluation of treatment efficiency, fit, and effect of clinician experience. *Journal of Prosthetic Dentistry*. Feb. 2020. 11; S0022-3913(18)31031-X. <https://doi.org/10.1016/j.prosdent.2019.08.006>. PMID: 32057487
8. Ro JH, Bang JJ, Kim Y-I, Lee DJ, **Ko CC**, Garcia-Godoy F, Kwon YH, Spectral characteristics of caries autofluorescence obtained from different locations and caries severities. *Journal of Biophotonics*. 2019. 13(1), e201900224. PMID: 31568652.
9. Lian C, Wang L, Wu T-H, Liu M, Duran F, **Ko CC**, Shen D. MeshSNet: Deep multi-scale mesh feature learning for end-to-end tooth labeling on 3D dental surface. Accepted to *MICCAI (22<sup>nd</sup> International Conference on Medical Image Computing and Computer Assisted Intervention)*. *MICCAI* 2019. pp 837-845. PMC Journal
10. Chen Si, Wang Li, Gang Li, Diachina S, Lee Y-T, Xu T, Shen D, **Ko CC**. Machine learning in Orthodontics: Introducing a 3D auto-segmentation and auto-landmark finder of CBCT images to assess maxillary constriction in unilateral impacted canine patients. *Angle Orthodontist*. 2020. 90 (1):77-84. PMID: 31403836
11. Wong SW, Huang B-W, Kim EH, Hu X, Kolb JP, Padilla RJ, Xue P, Wang L, Oguin TH, Miguez PA, Tseng H, **Ko CC** Martinez J. Global deletion of Optineurin results in altered type I IFN signaling and abnormal bone remodeling in a model of Paget's disease. *Cell Death & Differentiation*. 2020, 27:71–84. <https://doi.org/10.1038/s41418-019-0341-6>. PMID:31076632
12. Ahn MS, Shin SM, Yamaguchi T, Maki K, Wu T-J, **Ko CC**, Yong-II K. Relationship between the maxillofacial skeletal pattern and the morphology of the mandibular

- symphysis: Structural equation modeling. *Korean J Orthod.* 2019; 49(3):170-180. PMID: 31136492. PMCID: 6533179
13. Xue P, Hu X, Powers J, Nay N, Chang E, Kwon J, Wong SW, Han L, Wu T-H, Lee D-J, Tseng H, **Ko CC**. CDDO-Me, Sulforaphane, and tBHQ attenuate the RANKL-induced osteoclast differentiation via activating the NRF2-mediated antioxidant response. *Biochemical and Biophysical Research Communications.* 2019. Feb. 27. 511:637-643. <https://doi.org/10.1016/j.bbrc.2019.02.095>. PMID: 31136492. PMCID: PMC6435437
  14. Bae J, Son W-S, Yoo K-H, Yoon S-Y, Bae M-K, Lee DJ, **Ko CC**, Choi Y-K, and Kim Y-I. Effects of Poly(Amidoamine) Dendrimer-Coated Mesoporous Bioactive Glass Nanoparticles on Dentin Remineralization. *Nanomaterials* 2019, 9, 591; doi:10.3390/nano9040591. PMID: 31136492. PMCID: PMC6523905
  15. Kwon K, Lee DJ, Kocher M, Kim YI, Wu T-J, Whitley J, **Ko CC**. The Inhibition of Radial and Axial Micromovement of Bone Scaffold with Gelfoam® and Titanium Mesh Fixation and Its Effects on Osteointegration. *Methods and Protoc.* 2019, 2(1):20. doi: 10.3390/mps2010020. PMID: 31136492. PMCID: PMC6481059
  16. Wu T-J, Lee Y-H, Chang Y-J, Lin S-S, Lin F-C, Kim Y-I, **Ko CC**, Lai JP. Three-dimensional outcome assessment of maxillary advancement of cleft lip and palate patients. *Plastic and Reconstructive Surgery.* 2019 Jun;143(6):1255e-1265e. PMID: 31136492.
  17. Lee DJ, Kwon J, Current L, Yoon K, Zalal R, Hu X, Xue P, **Ko CC**. Osteogenic potential of Mesenchymal Stem Cells from Rat Mandible to Regenerate Critical Sized Calvarial Defect. *Journal of Tissue Engineering.* 2019. 10:1-13. 10.1177/2041731419830427. PMID: 31136492. PMCID: PMC6415471
  18. Jacox LA, Mihas P, Cho C, Lin F-C, **Ko CC**. Understanding Technology Adoption By Orthodontists. *Am J Orthod Dentofacial Orthop.* 2019, 155(3):432-442. PMID: 31136492. PMCID: PMC6415471
  - 19.
  - 20.
  - 21.
  - 22.
  - 23.

24. Geng H, Su H, Whitley J, Lin F-C, **Ko CC**. The Effect of Clinical Use on The Mechanical Characteristics of Nickel-Titanium Closed-Coil Springs. *Journal of International Medical Research*. 2019. 47(2):803-814. <https://doi.org/10.1007/s00784-018-2658-9>. PMID: PMC6381489
25. Jung J-H, Park S-B, Yoo K-H, Yoon S-Y, Bae M-K, Lee DJ, **Ko CC**, Kwon YH, Kim Y-I. Effect of different sizes of bioactive glass-coated mesoporous silica nanoparticles on dentinal tubule occlusion and mineralization. *Clin Oral Investig*. 2018 Sep 30. doi: 10.1007/s00784-018-2658-9. PMID: 30269174
26. Lee S-M, Yoo K-H, Yoon S-Y, Kim I-R, Park B-S, Son W-S, **Ko CC**, Son S-A, Kim Y-I. Enamel anti-demineralization effect of orthodontic adhesive containing bioactive glass and graphene oxide: an in vitro study. *Materials* 2018, 11, 1728; doi:10.3390/ma11091728. PMID: PMC6163975
27. Jung J-H, Kim D-H, Yoo K-H, Yoon S-Y, Kim Y, Bae M-K, Chung J, **Ko CC**, Kwon YH, Kim YI. Dentin sealing and antibacterial effects of silver-doped bioactive glass/mesoporous silica nanocomposite: an in vitro study. *Clinical Oral Investigations*. 2018. April. 6. <https://doi.org/10.1007/s00784-018-2432-z> PMID: 29623418
28. Hu H, Huang B-W, Lee Y-T, Hu J, Wong S-W, Ko CC, You W. Dramatic Improvement of the Mechanical Strength of Silane-Modified Hydroxyapatite–Gelatin Composites via Processing with Cosolvent. *ACS Omega* 2018. 3(3): 3592-3598. PMID: PMC5880507
29. Li Y, Jacox L, Little HS, **Ko CC**. Orthodontic Tooth Movement: the Biology and Clinical Implication. *Kaohsiung Journal of Medical Sciences*. 2018. 34(4): 207-214.
- 30.
- 31.
- 32.
- 33.
- 34.
- 35.
- 36.

- spectrum. *J Dentistry*. Oct 6, 2017. 67:77-83. <https://doi.org/10.1016/j.jdent.2017.09.015>  
PMCID: PMC5705396
37. Atieh M, Ritter AV, **Ko CC**, Duqum I. Accuracy Evaluation of Intra-Oral Optical Impressions: A Clinical Study Using a Reference Appliance. *The Journal of Prosthetic Dentistry*. 2017 Sep;118(3):400-405. PMCID: PMC5812952.
  38. Chen S, Bai B, Lee D-J, Diachina S, Li Y, Wong SW, Wang Z, Tseng HC, **Ko CC**. Dopaminergic enhancement of cellular adhesion in bone marrow derived mesenchymal stem cells (MSCs) *J Stem Cell Research & Therapy*, Aug. 10, 2017. NIHMS931669. PMCID: PMC5812952
  39. Ólafsson V.G., Ritter A.V., Swift E.J., Boushell L.W., **Ko CC**, Jackson G.R., Ahmed S.N., Donovan T.E. Effect of composite type and placement technique on cuspal strain. *J Esthet Restor Dent*. 2018 Jan;30(1):30-38. doi: 10.1111/jerd.12339. PMCID: PMC5815887
  40. Ok S-M, Lee S-M, Park HR, Jeong S-H, **Ko CC**, Kim Y-I. Concentrations of CTX I CTX II DPD and PYD in the urine as a biomarker for the diagnosis of temporomandibular joint osteoarthritis A preliminary study. *Cranio. (J Craniomandibular & Sleep Practice)* 2018 Nov; 36(6): 366–372. PMCID: PMC5814361
  41. Jackson T, Guez C, Lin F-C, Proffit W, **Ko CC**. The Modern Likelihood of Orthodontic Tooth Extraction. *AJODO*. 2017;151:456-62. PMCID: PMC5338460
  42. Uhlir R, Mayo V, Lin PH, Chen S, Lee Y-T, Garland H, Lin F-C, **Ko CC**. Biomechanical Characterization of the Periodontal Ligament: Orthodontic Tooth Movement. *Angle Orthodontist*. 2017; 87:183–192. PMCID: PMC5812953.
  43. Lee DJ, Diachina S, Lee YT, Zhao L, Zou R, Tang N, Han H, Chen X, **Ko CC**. Decellularized bone matrix grafts for calvaria regeneration. *J Tissue Eng*. 2016 Dec 5(7): 2041731416680306. PMCID: PMC5308431.
  44. Hu H, Dyke J, Bowman B, **Ko CC**, You W. Investigation of Dopamine Analogues: Synthesis, Mechanistic Understanding, and Structure-Property Relationship. *Langmuir*. 2016; 32(38):9873-9882. PMID: 27595572.
  45. Kim SS, Kwak KH, **Ko CC**, Park SB, Son WS, Yi Kim. Comparison of post-operative distal segment changes between conventional and sliding mini-plate fixation methods. *Korean J Orthod*. 2016 Nov; 46(6): 372–378. PMCID: PMC5118216
  46. Choi Y-K, Kim J, Yamaguchi T, Maki K, **Ko CC**, Kim Y-I. Cervical Vertebral Body's Volume as a New Parameter for Predicting the Skeletal Maturation Stages. *BioMed Research International*, Vol.2016 ID 8696735, 7 pages. 2016, <http://dx.doi.org/10.1155/2016/8696735>. PMCID: PMC4909925
  47. Lee DJ, Park Y, Hu W-S, **Ko CC**. Osteogenic potential of Multipotent Adult Progenitor Cells (MAPCs) for Calvaria Bone Regeneration. *Advances in Medicine*. vol. 2016, Article ID 2803081, 11 pages, 2016. doi:10.1155/2016/2803081. PMCID: PMC4864565
  48. Son S-A, Jung K-H, **Ko CC**, Kwon YH. Spectral characteristics of caries-related autofluorescence spectra and their use for diagnosis of caries stage. *J Biomed Opt*. 2016 Jan 1;21(1):15001. doi: 10.1117/1.JBO.21.1.015001. PMID: 26747473
  49. Byun B-R, Kim Y-I, Yamaguchi T, Maki K, **Ko CC**, Hwang D-S, Park S-B, Son W-S. Quantitative skeletal maturation estimation using cone-beam computed tomography-generated cervical vertebral images: a pilot study in 5- to 18-year-old Japanese children. *Clin Oral Invest*. 2015, 19:2133-2140. DOI 10.1007/s00784-015-1415-6. PMID: 25670533
  50. Kim T-W, Lee J-H, Jeong S-H, **Ko CC**, Kim H-I, Kwon YH. Mechanical Properties and Polymerization Shrinkage of Composite Resins Light-Cured Using Two Different Lasers.

- Photomedicine and Laser Surgery*. 2015. 33(4): 213-219. DOI: 10.1089/pho.2014.3849. PMID: 25763478
51. Lee DJ, Tseng HC, Wong SW, Wang Z, Deng M, **Ko CC**. Dopaminergic effects on in vitro osteogenesis. *Bone Research*. 3:15020. 2015. doi:10.1038/boneres.2015.20. PMID 26558139. PMCID: PMC4639997.
  52. Zhang H, Yang S, Masako N, Lee DJ, Cooper L, **Ko CC**. Proliferation of preosteoblasts on TiO<sub>2</sub> nanotubes is FAK/RhoA related. *RSC Advances*. 2015. 5:38117–38124. DOI: 10.1039/C4RA16803H. NIHMSID 685853. PMCID: PMC4467958
  53. Ku R-M, **Ko CC**, Jeong C-M, Park M-G, Kim H-I, Kwon YH. Effect of flowability on the flow rate, polymerization shrinkage, and mass change of flowable composites. *Dental Materials Journal* 2015; 34(2): 168–174. PMID: 25740163.
  54. Ro JH, Son SA, Park JK, Jeon GR, **Ko CC**, Kwon YH. Effect of two lasers on the polymerization of composite resins: single vs combination. *Lasers Med Sci*. 2015. 30:1497–1503. PMID:25895056.
  55. Chiu C-K, Dong Joon Lee DJ, Chen H, Chow LC, **Ko CC**. *In-situ* hybridization of calcium silicate and hydroxyapatite-gelatin nanocomposites enhances physical property and *in vitro* osteogenesis. *J Mater Sci: Mater Med*. 2015, 26:92. DOI: 10.1007/s10856-015-5456-9. PMID: 25649517
  56. Son S-A, Park J-K, Jung K-H, **Ko CC**, Jeong C-M, Kwon YH. Effect of 457nm Diode-Pumped Solid State Laser on the Polymerization Composite Resins: Microhardness, Cross-Link Density, and Polymerization Shrinkage. *Photomedicine and Laser Surgery*. 33(1):3-8, 2015. DOI: 10.1089/pho.2014.3786. PMCID: PMC4298143.
  57. Brown MW, Koroluk L, **Ko CC**, Zhang K, Chen M, Nguyen T. Effectiveness and efficiency of a CAD/CAM orthodontic bracket system. *Am J Orthod Dentofacial Orthop*. 2015 Dec;148(6):1067-74. PMID:26672713
  58. Dyke J, Hu H, Lee DJ, **Ko CC**, You W. The role of temperature in forming sol-gel biocomposites containing polydopamine. *J Mater Chem B Mater Biol Med*. 2014. 2:7704-7711. doi:10.1039/C4TB00884G; NIHMSID: NIHMS634448. PMCID: PMC4251499
  59. Galicia JC, Naqvi AR, **Ko CC**, Nares S, Khan AA. MiRNA-181a regulates Toll-like receptor agonist-induced inflammatory response in human fibroblasts. *Genes and Immunity*, Jul-Aug;15(5):333-7. doi: 10.1038/gene.2014.24. PMCID: PMC4111836
  60. Lee DJ, Padilla R, Zhang H, Hu W-S, **Ko CC**. *In Vivo* Assessment of Decellularized Bone Matrix and Calcium Silicate Incorporated Hydroxyapatite-Gelatin Nanocomposites. *BioMed Research International*. 2014:837524. PMCID: PMC4098952
  61. Miguez P, Terajima M, Nagaoka H, Ferreira JA, Braswell K, **Ko CC**, Yamauchi M. Recombinant biglycan promotes bone morphogenetic protein-induced osteogenesis. *Journal of Dental Research*. April 2014. 93(4):406-411. doi: 10.1177/0022034514521237. PMCID: PMC3957343
  62. Cox, C, Nguyen T, Koroluk L, **Ko CC**. In Vivo Force Decay of Niti Closed Coil Springs. *Am J Orthod Dentofacial Orthop*. 145(4): 505–513, April. 2014. NIHMSID#558064. YMOD4561.
  63. Park J-K, Lee G-H, Kim J-H, Park M-G, **Ko CC**, Kim H-I, Kwon YH. Polymerization shrinkage, flexural and compression properties of low-shrinkage dental resin composites. *Dental Materials*. 2014; 33(1): 104–110.



64.

65.

66.

67.

68.

69.

70.

71.

72.

73.

74.

Orthodontic Asymmetric Headgear, *Angle Orthodontist* 2012 Jul. 82(4): 682-690.

75. Anchieta RB, Rocha EP, Almeida EO, Freitas Jr AC, Martin Jr M, Martini AP, Archangelo CM, **Ko CC**. Influence of customized composite resin fiberglass posts on the mechanics of restored treated teeth. *Int Endodontic Journal* 2012; 45(2):146-155.

76. Archangelo CM, Rocha EP, Anchieta RB, Martin Jr M, Freitas Jr AC, **Ko CC**, Cattaneo PM. Influence of buccal cusp reduction when using porcelain laminate veneers in premolars. A comparative study using 3-D finite element analysis. *J Prosthodont Res* 2011;55(4):221-227.

77. Shin D-H, Yun D-I, Park M-G, **Ko CC**, Garcia-Godoy F, Kim H-I, Kwon YH. Influence of DPSS Laser on Polymerization Shrinkage and Mass Change of Resin Composites. *Photomedicine and Laser Surgery* 2011;29(8):545-550.

78. Kim Y-O, Park S-B, Son W-S, **Ko CC**, Franklin G-G, Kim H-II, Kwon YH. Diode-pumped solid-state laser for bonding orthodontic brackets: effect of light intensity and light-curing time. *Lasers Med Sci* 2011;26(5):585-9.
79. Freitas Júnior AC, Rocha EP, dos Santos PH, **Ko CC**, Júnior MM, de Almeida EV. Mechanics of the maxillary central incisor. Influence of the periodontal ligament represented by beam elements. *Computer Methods in Biomechanics and Biomedical Engineering* 2010;13(5): 515–21.
80. Rocha EP, Anchieta RB, Freitas Júnior AC, de Almeida EO, Cattaneo PM, **Ko CC**. Mechanical behavior of ceramic veneer in zirconia-based restorations: A 3-dimensional finite element analysis using microcomputed tomography data. *J Prosthet Dent* 2010;105:14-20.
81. Park J-K, Hur B, **Ko CC**, García-Godoy F, Kim H-I, Kwon YH. Effect of light-curing units on the thermal expansion of resin nanocomposites. *Am J Dent* 2010;23:331-4. PMID:PMC3178456
82. Park SB, Kang EH, Son WS, **Ko CC**, Kim HI, Kwon YH. Effect of DPSS laser on the shear bond strength of orthodontic brackets. *Am J Dent* 2010;23(4):205-7. PMID:PMC3178458
83. Park JK, Kim TH, **Ko CC**, García-Godoy F, Kim HI, Kwon YH. Effect of staining solutions on discoloration of resin nanocomposites. *Am J Dent* 2010 Feb;23(1):39-42. PMID:PMC3178459
84. Larson BE, Sievers MM, **Ko CC**. Improved Lateral Cephalometric Superimposition Using an Automated Image Fitting Technique. *Angle Orthod* 2010;80(3):474-9.
85. Luo T-J M., **Ko C.C.**, Chiu C-K, Llyod J, Huh H. Aminosilane as an effective binder for hydroxyapatite-gelatin nanocomposites. *J Sol-Gel Sci & Tech* 2010;53:459-65. PMID: PMC3702191. NIHMSID: NIHMS450862
86. Huang H-L, Fuh L-J, **Ko CC**, Hsu J-T, Chung H-Y, Chen C-C. Biomechanical effects of a maxillary implant in the augmented sinus: a three-dimensional finite element analysis. *Int J Oral Maxillofac Implants* 2009;4(3):455-62.
87. Seong WJ, Kim UK, Swift JQ, Hodges JS, **Ko CC**. Correlations between physical properties of jawbone and dental implant initial stability. *J Prosthet Dent* 2009;101(5):306-18.
88. Seong WJ, Swift J, Hodges J, Heo YC, **Ko CC**. Elastic properties and apparent density of human edentulous maxilla and mandible. *International Journal of Oral & Maxillofacial* 2009;38:1088-93.
89. Park S-B, Son W-S, **Ko CC**, Garcia-Godoy F, Park M-G, Kim H, Kwon YH. Influence of flowable resins on the shear bone strength of orthodontic brackets. *Dent Mater* 2009;28(6):730-4.
90. **Ko CC**, Luo T-JM, Chi L, Ma A. Hydroxyapatite/gemosil nanocomposite. In Narayan R. and Colombo P. eds., *Advances in Bioceramics and Porous Ceramics: Ceramic Engineering and Science Proceedings*, 2009; 29(7): 123-34.
91. Ferreira JNAR, **Ko CC**, Myers S, Swift JQ, Friction J. Evaluation of surgically retrieved temporomandibular joint alloplastic implants—pilot study. *The Int. J Oral & Maxillofac Implants* 2008;66: 1112-24.
92. Oyen ML, **Ko CC**. Indentation variability of natural nanocomposite materials. *J. Mater. Res* 2008;23(3):760-7.

Curriculum Vitae  
Ching-Chang Ko

93.

94.

95.

96.

97.

98.

99.

100.

101.

102.

103.

104.

105.

106.

107.

108.

Curriculum Vitae  
Ching-Chang Ko

109.

110.

111.

112.

113.

114.

115.

116.

117.

118.

119.

120.

121.

122.

123.

124.

125.

126.

127.

128.

129.

130.

131.

132.

133.

134.

135.

Conference Papers (Peer-Reviewed Proceeding Papers)

1. MeshSNet: Deep Multi-Scale Mesh Feature Learning for End-to-End Tooth Labeling on 3D Dental Surfaces. #1446. Oct. 13-17. 2019, MICCAI in Shen Zhen, China.
2. **Ko CC**, An K-N. A biomimetic cementeous material: gelatinous hydroxyapatite in organosilica polymeric matrix. *Annual Meeting of Orthopedic Research Society*, Long Beach, CA, January 2011. #1910.
3. Oyen ML, **Ko CC**, Bembey AK, Bushby AJ and Boyde A. Nanoindentation and Finite Element Analysis of Resin-Embedded Bone Samples as a Three-Phase Composite Material. *MRS Proceedings*, 2005; 874, L1.7 doi:10.1557/PROC-874-L1.7.
4. Bembey AK, Oyen ML, **Ko CC**, Bushby AJ and Boyde A. Elastic Modulus and Mineral Density of Dentine and Enamel in Natural Caries Lesions. *MRS Proceedings*, 2005; 874, L5.15 doi:10.1557/PROC-874-L5.15.
5. Oyen ML and **Ko CC**. Finite Element Modeling of Bone Ultrastructure as a Two-phase Composite. *MRS Proceedings*, 2004; 844, Y8.7 doi:10.1557/PROC-844-Y8.7.
6. **Ko CC**. Potential role for implant healing time in early bone response to a functionally loaded dental implant. *Proceedings of Annual Whitaker Biomedical Engineering Conference*, 2001; 43.

Journal Abstracts

1. **Ko CC**. Multifactorial Strategy for Bone Regeneration in Polydopamine-laced Hydroxyapatite Collagen Scaffold. IADR Meeting, Vancouver, CA. June 2019. #1100
2. Hu X, Xue P, Powers J, Nay N, Chang E, Kwon J, Wu TH, Lee DJ, Tseng H, **Ko CC**. NRF2 inducers attenuate RANKL-induced osteoclast differentiation by activating antioxidant response. IADR Meeting, Vancouver, CA. June 2019. #S2652.

Curriculum Vitae  
Ching-Chang Ko

Curriculum Vitae  
Ching-Chang Ko



Curriculum Vitae  
Ching-Chang Ko

Curriculum Vitae  
Ching-Chang Ko

Curriculum Vitae  
Ching-Chang Ko

97. **Ko CC**, Chu CS, Lee MC. Stress analysis of pulpless tooth: Effects of post on dentin stress distribution. *J Biomed Eng Soc ROC* 1989;9(2):43.
98. **Ko CC**, Lee MC. Stress analysis of post-restored teeth with various bone support. *Proc Annual Meeting Soc Biomed Eng ROC*, 1988:70-1.

Presentation with Abstracts (no page number in the electronic program book)

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.
- 8.
- 9.
- 10.
- 11.
- 12.
- 13.

Invited Oral Presentations (National and International)

- 2020      “Machine learning in dentistry” Asian Pacific Dental; Alumni Society at OSU, APDAS Symposium. March 7, 2020.

Curriculum Vitae  
Ching-Chang Ko

2019

2019

2019

2019

2019

2018

2018

2018

2018

2018

2017

2017

2017

2017

2017

2017

2016

2016

2016

Curriculum Vitae  
Ching-Chang Ko

2015

2015

2015

2015

2014

2014

2014

2014

2013

2013

2013

2013

2012

2012

2012

2011

2009

2009

2009

2009

2009

Curriculum Vitae  
Ching-Chang Ko

2008

2008

2008

2008

2008

2007

2006

2006

2005

2005

2004

2003

2002

2002

2001

2001