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CURRICULUM VITAE

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EDUCATION

Ph.D. in Mechanical Engineering, Drexel University, Philadelphia, 1989
M.S. in Biomedical Engineering, Shanghai Second Medical College, China, 1984
B.S. in Engineering Mechanics, Tianjin University, China, 1982

PROFESSIONAL EXPERIENCE

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| 2011-Present | Director, IUPUI Industrial Assessment Center, Indiana University Purdue University Indianapolis (IUPUI) |
| 2008- Present | Chair, Department of Mechanical Engineering, IUPUI |
| 2004 – 2008 | Associate Chair, Department of Mechanical Engineering, IUPUI |
| 2000 - Present | Professor, Department of Mechanical Engineering, IUPUI Professor, Department of Orthodontics and Oral Facial Genetics, School of Dentistry, Indiana University (IU) |
| 2000 - 2001 | Senior CAD/CAE/CAM/PIM Training Specialist, Ford Motor Company, Detroit |
| 1997-1999 | Acting Chair, Department of Mechanical Engineering, IUPUI |
| 1995-2000 | Associate Professor, Department of Mechanical Engineering Associate Professor of Orthodontics, Department of Orthodontics and Oral Facial Genetics, School of Dentistry, Indiana University |
| 1990-1995 | Assistant Professor, Department of Mechanical Engineering Assistant Professor of Orthodontics, Department of Orthodontics and Oral Facial Genetics, School of Dentistry, Indiana University |
| 1989-1990 | Research Postdoctoral Fellow, Department of Mechanical Engineering and Engineering Mechanics, Drexel University Instructor Postdoctoral Fellow, Department of Mechanical Engineering and Engineering Mechanics, Drexel University |
| 1985-1989 | Research Assistant/Teaching Assistant, Department of Mechanical Engineering and Engineering Mechanics, Drexel University |
| 1984-1985 | Instructor, Department of Mechanics, Tianjin University |

AWARDS & HONORS

- Ralph V. McKinney Jr. Award, International Congress of Oral Implantologists, 1995
- Abraham M. Max Distinguished Professor Award for Outstanding Research, Purdue School of Engineering and Technology, IUPUI, 1999
- Teaching Excellence Recognition Award, Indiana University Board of Trustee, 1999
- Indiana University Trustee's Teaching Award, Indiana University Board of Trustee 2005
- Indiana University Trustee's Teaching Award, Indiana University Board of Trustee 2006
- Doris H. Merritt Outstanding Leadership Award, Purdue School of Engineering and Technology, IUPUI, 2016
- IUPUI IAC received the 2019 DoE Industrial Assessment Center of Excellence Award presented by the Department of Energy's EERE, July 2019

PATENTS

Issued:

1. Chen, J. Apparatus and method for measuring orthodontic force applied by an orthodontic appliance. US patent # 6,120,287 (2000)
2. Xie, J., Chen, J., Li, L., and Chen, Y., Battery early warning and monitoring system, US patent #8,952,823 (2015)
3. Chen, J., Razban, A, Chien, S.,Amini, A., Kamoona, M.S.A., Piroozi, H. R., System and Method for Managing Electrical Components for Energy Usage, US patent 10,303,139 B2. May 28, 2019.

Patent pending:

1. Chen, J., Vibrator for Tooth Movement Modulation, US Provisional Patent Application No. 62/222,320, 9/2015
2. Chen, J., Mustafa Saad Abdulwahhab Karmoona, Ali Razban, Stanley Yung-Ping Chien, and Amin Amini, System and Method for Electrical Component Management, US Provisional Patent Application No. 62/344,193, June 1, 2016
3. Chen, J., and Jiang, F, In-Vitro Optical Penetration Test of Light on Oral Tissue, US Provisional Patent Application No. 62/436,146, 12/19/2016
4. Chen, J., Na, S., Jiang, F., Utreja, A., Methodology to Determine Light therapy Doses Provisional Patent Application No. 62/583,716, 11/17/2017
5. Chen, J., and Jiang, F. "Light Assisted Orthodontic Devices and Methods of Making and Using Same, US/28.12.16/USP201662439688, 12/28/2017
6. Chen, J., Shapiro, R, and Lulu, B., DEVICE FOR REPEATABLE HEAD AND NECK TUMOR ALLOCATION DURING ONCOLOGY RADIATION THERAPY, IU Reference Number: 2018-123-01, Application Number: US 62/691,993, Filing Date: June 29, 2018

7. Chen, J., Patient-specific Tray for Orthodontics Vibratory Force Management, Application Number 62/726,533, Filing Date: Sept. 4, 2018
8. Chen, J., and Jiang, F, In-Vitro Optical Penetration Test of Light on Oral Tissue, International Patent Application No. PCT/US2017/066559, Filing Date: December 15, 2017
9. Razban, A, Wu, D., Amni, A., and Chen, J. "Forecasting and Managing Daily Electrical Maximum Demands, International Patent Application No. PCT/US2019/16/272,759., Filing Data: 3/11/2019
10. Chen, J., Patient-specific Tray for Orthodontics Vibratory Force Management, Non Provisional Patent Application Number 16/503,918, Filing Date: July 5, 2019
11. Chen, J., and Jiang, F, In-Vitro Optical Transmittance Test of LED on Oral Tissue, Non-provisional Patent Application No.: 16/470,717, Pub. Date: Nov. 7, 2019

PREVIOUS AND CURRENT FUNDING

Summary

- External funding as PI: \$8,368,604
- External funding as co-PI: \$2,365,913
- Internal funding as PI: \$430,096

PUBLICATIONS

Refereed Journal Papers

1. Siegler, S., Chen, J., and Schneck, C.D., "The three dimensional kinematics and flexibility characteristics of the human ankle and subtalar joint, Part 1: Kinematics" Trans. ASME J. Biomech. Engin, Vol. 110, Nov. 1988, PP. 364-373
2. Chen, J., Siegler, S., and Schneck, C.D., "The three dimensional kinematics and flexibility characteristics of the human ankle and subtalar joint, Part 2: Flexibility characteristics" Tran ASME J Biomech Engin, Vol 110, Nov. 1988, PP 374-385
3. Siegler, S., Chen, J., and Schneck, C.D., " The effect of damage to the lateral collateral ligaments on the mechanical characteristics of the ankle joint - an in-vitro study," Tran. ASME J Biomech Engin, Vol. 112, May 1990, pp. 129-137
4. Chen, J., and Buckwalter, K., "Displacement Analysis of the Temporomandibular Condyle from Magnetic Resonance Images", J. Biomechanics, 1993, Vol. 26, No. 12, 1993, pp. 1455-1462
5. Chen, J., Lu, X., Paydar, N., Akay, H., and Roberts, W.E., " Mechanical Simulation of the Human Mandible with and without Endosseous Implant", Med. Eng. Phys., 1994, Vol. 16, pp. 53-61

6. Katona, T.R., and Chen, J., "Engineering and Experimental Analysis of the Tensile Loads Applied During Strength Testing of Direct Bonded Orthodontic Brackets", *Am J Orthod Dentofac Orthop*, Vol. 106, N0 2, pp 167-174, 1994
7. Chen, J. and Xu, L., "A Finite Element Analysis of the Human Temporomandibular Joint" *Journal of Biomechanical Engineering*, Vol. 116, 1994, pp. 401-407
8. Yoshikawa, T. Mori, S., Santiesteban, J., Sun, T.C., Hafstad, E., Chen, J., and Burr, D.B., "The Effects of Muscle Fatigue on Bone Strain" *Journal of Experimental Biology*, 1994, 188:pp. 217-233
9. Garetto, L.P., Chen, J., Parr, J.A., and Roberts W.E., "Remodeling Dynamics of Bone Supporting Rigidly-Fixed Titanium Implants: A Histomorphometric comparison in Four Species Including Humans", *Implant Dentistry*, Vol. 4, No. 4:pp. 235-242, 1995
10. Chen, J., Chen, K., Garetto, L.P., and Roberts, W.E., "Mechanical Response to Functional and Therapeutic Loading of a Retromolar Endosseous Implant Utilized for Orthodontic Anchorage to Mesially Translate Mandibular Molars", *Implant Dentistry*, Vol. 4, No. 4:pp.246-257, 1995
11. Hasegawa, K, Turner, C.T., Chen, J., and Burr, D.B. "Effect of Disc Lesion on Microdamage Accumulation in Lumbar Vertebrae under Cyclic Compression Loading", *Clinical Orthopaedics and Related Research*, No. 311, 1995, pp. 190-198
12. Chen, J., Chen, K., Katona, T.K., Baldwin, J.J., and Arbuckle, G., "Non-linear Large Deformation FE Analysis of Orthodontic Springs", *Bio-Medical Materials and Engineering*, 7, 1997, 99-110
13. Chen, J., Akyuz, U., Xu, L., and Pidaparti, R.M.V., "A Non-linear Finite Element Analysis of the Human Temporomandibular Joint", *Med. Eng. Phys.*, (20), 1998, 565-572
14. Wagner, J.D., Coleman III, J.J., Weisberger, E., Righi, P.D., Radpour, S., McGarvey, S., Baylor, A., Chen, J., Crow, H., "Predictive Factors for Functional Recovery after Free Tissue Transfer Oromandibular Reconstruction" *American Journal of Surgery*, Vol. 176, Nov. 1998, pp. 430-435
15. Chen, J., and Katona, T.K., "The Limitations of the Instantaneous Center of Rotation in Joint Research", *the Journal of Rehabilitation*, 26, 274-279, 1999
16. Chen, J., Esterle, M., Roberts, W.E. Mechanical Response to Functional Loading around the Threads of Retromolar Endosseous Implants Utilized for Orthodontic Anchorage: Coordinated histomorphometric and finite element analysis. *The International Journal of Oral & Maxillofacial Implants*, Vol. 14, No. 2, 1999, pp. 282-289
17. Chen, J., Katona, TR, Markham, D, "Effects of Geometric Changes of T-loop Spring on Its Loads" *The Angle Orthodontics*, Vol. 70, No 1, 2000
18. Winkler, M.M., Katona, T.R., Chen, J., Hamula, D.W., Carlson, T.J., and Qian, H., "Experimental Validation of a Finite Element Model of Light-Activated Polymerization Shrinkage" *Journal of Biomedical Materials Research*. 53(5):554-9, 2000
19. Qian, H., Chen, J., Katona, T.R., "The influence of PDL principal fibers in a 3-dimensional analysis of orthodontic tooth movement" *American Journal of Orthodontics and Dentofacial Orthopedics*, Vol. 120, No. 3, 2001

20. Zhang, D., Chen, J., Hsieh, T., Rancourt, J., and Schmidt, M.R., "Dynamic modeling and simulation of two-mode electric variable transmission" *Proc Instn Mech Engrs*, Vol 215, pp. 1217-1223, 2001
21. Zhang, D., Chen, J., Hsieh, T., Rancourt, J., and Schmidt, M.R., "Dynamic modeling and simulation of one- and three- mode electric variable transmission" *International Journal of Vehicle Design*, Vol. 35, Issue 3, 241-273, 2004
22. Cao, M. and Chen, J. "HEV Maximum Power Performance Simulation and Duty Cycle Generation" *Int. J. Vehicle Design*, Vol. 38, 42 No. 1, 2005
23. Chen, J., and El-Mounayri, "Advanced Manufacturing – a crucial technology for the competitiveness of a company in 21st Century, *INTMA Tooling and Machining Magazine*, 2004
24. Katona, TR, Le, Y, and Chen, J., "The effects of first- and second-order gable bends on forces and moments generated by triangular loops", *American Journal of Orthodontics and Dentofacial Orthopedics*, *Am J Orthod Dentofacial Orthop* 2006;129:54-59
25. Chen, J., Bai, G., Shen, Z., Li, X., Fulton, D., Hsu, A. "Prediction of Failure Rate of Rotary Machine Using Computer simulations," *the ASME Transaction Journal of Manufacturing Science and Engineering*, Vol. 127, No 4, 768-772, 2005
26. Chen, J., Bulucea, I., Katona, T., Ofner, S. "Complete orthodontic load systems on teeth in a continuous full archwire - The role of triangular loop position," *Am J Orthod Dentofacial Orthop*, 132(2): p. 143 e142-148, 2007
27. Viecilli, R, Chen, J., Katona, T., Roberts, W.E., "The Force System Generated by an Adjustable Molar Root Movement Mechanism," *Am J Orthod Dentofacial Orthop.* 135(2):165-73, 2009
28. Chen, J., Li, S., and Fang, S., "Quantification of Tooth Displacement from Cone Beam CT images" *the American Journal of Orthodontics and Dentofacial Orthopedics*, 2009 Sep;136(3):393-400
29. Viecilli, R, Katona, T, Chen, J, Hartsfield, JK, and Roberts, WE, "The Three-dimensional Mechanical Environment of Orthodontic Tooth Movement and Root Resorption," *Am J Orthod Dentofacial Orthop.* 133(6):791.e11-26, 2008
30. Meyer, BN, Chen, J., and Katona, TR, "Does the center of resistance depend on the direction of tooth movement? *American Journal of Orthodontics and Dentofacial Orthopedics*, Vol, 137, issue 3, page 345-361, 2010
31. Viecilli, R, Katona, T, Chen, J, Hartsfield, JK, and Roberts, WE, "Orthodontic Mechanotransduction and the Role of the P2X7 Receptor," *Am J Orthod Dentofac Orthop.* 135(6):694.e1-16; discussion 694-5, 2009
32. Viecilli, R. F., T. R. Katona, J. Chen, J. K. Hartsfield and W. E. Roberts. "Comparison of dentoalveolar morphology in C57B/6 and P2X7R KO mice for the development of biomechanical orthodontic models." 2009 *Anat Rec.* 292(2):292-8
33. Yadav, S., Chen, J., Jiang, F., "Comparison of the force systems of three appliances on palatally impacted canine" [Am J Orthod Dentofacial Orthop.](#) 2011 Feb; 139(2):206-13
34. Chen, J., Isikbay, S., Brizendine, E., "Quantification of 3D Orthodontic Force Systems of T-loop Archwires" *Angle Orthodontics* 2010 Jul; 80(4):566-70

35. Gajda, S., Chen, J. "Comparison of Three Dimensional Orthodontic Load Systems of Different Commercial Archwires for Space Closure." *Angle Orthodontist* 2012; 82(2):333-9
36. Kroczek, C, Kula, K., Fu, T., and Chen, J. "Comparison of the orthodontic load systems created with elastomeric power chain to close extraction spaces on different rectangular archwires" [Am J Orthod Dentofacial Orthop. Volume 141, Issue 3](#) , Pages 262-268, March 2012
37. Yadav, S., Chen, J., Upadhyay, M., Roberts, E., and Nanda, R., "Three-dimensional quantification of the force system involved in a palatally impacted canine using a cantilever spring design" *Orthodontics (Chic.)*. 2012;13(1):22-33
38. Xia, Z., Chen, J., "Biomechanical Validation of an Artificial Tooth-PDL-Bone Complex for in vitro Orthodontic Load Measurement" *Angle Orthodontists*, 2013;83(3):410-7
39. Mittal, N., Xia, Z, Chen, J., Stewart, K.T., and Liu, S.S., "Three-dimensional quantification of pretorques nickel-titanium wires in edgewise and prescription brackets" *Angle Orthodontists* 2013; 83(3):484-90
40. Xia, Z., Jiang, F., and Chen, J. "Estimation of Periodontal Ligament's Equivalent Mechanical Parameters for Finite Element Modeling" *American Journal of Orthodontics and Dentofacial Orthopedics*, Volume 143, Issue 4, Pages 486-91, 2013
41. Xia, Z., Chen, J., Jiang, F., Li, S., Vicicilli, R.F., and Liu, S., "Load System of Segmental T-Loops for Canine Retraction" *the American Journal of Orthodontics and Dentofacial Orthopedics*, 2013 Oct;144(4):548-56 PMC3829684
42. Yunfeng Liu, Nan Ru, Jie Chen, Sean Shih-Yao Liu and Wei Peng, "Finite Element Modeling for Orthodontic Biomechanical Simulation Based on Reverse Engineering: A Case Study" *Research Journal of Applied Sciences, Engineering and Technology* 6(17): 3267-3276, 2013
43. Katona, T, Isikbay, S. and Chen, J. "Effects of 1st and 2nd order gable bends on the 3D orthodontic load systems produced by T-loop archwires" *the Angle Orthodontists*, 2014 Mar;84(2):350-7. PMID: 23987243, PMCID: PMC4091840
44. Katona, T, Isikbay, S. and Chen, J. "An analytical approach to 3D orthodontic load systems" *the Angle Orthodontists*, 2014 Sep;84(5):830-8 PMID: 24605915, PMCID: PMC4149860
45. Liu, Y.F., Zhang, P.Y., Zhang, Q.F., Zhang, J.X., Chen, J., "Digital design and fabrication of simulation model for measuring orthodontic force" *Bio-Medical Materials and Engineering* (2014);24(6):2265-71
46. Li, S., Xia, Z, Liu, S., Eckert, G., and Chen, J., "Three-dimensional Canine Displacement Patterns in Response to Translation and Controlled Tipping Retraction Strategies" *the Angle Orthodontists*, 2015, Jan: 85(1):18-25 PMID:24885592 PMCID:PMC4254379
47. Jiang, F., Liu, S., Li, S., Xia, Z., Kula, K., Eckert, G., and Chen, J., "Hounsfield Unit Change in Root and Alveolar Bone during Canine Retraction", *AJODO*, 2015 Apr;147(4):445-53, PMID: 25836004, PMCID: PMC4385197
48. Jiang, F., Xia, Z. Li, S., Eckert, G., J. Chen, "Mechanical environment change in root, periodontal ligament, and alveolar bone in response to two canine retraction

- treatment strategies”, *Orthodontic and Craniofacial Research*, 2015 Apr;18 Suppl 1:29-38, PMID:25865531, PMCID: PMC4460608
49. Article title: Authors' response, Reference: YMOD5014, Journal title: *American Journal of Orthodontics & Dentofacial Orthopedics* Corresponding author: Dr. Jie Chen First author: Dr. Jie Chen
 50. Jiang, F., Kula, K., and Chen, J., “Estimating the location of Center of Resistance of Canines” *The Angle Orthodontists*, September 24, 2015
 51. Xia, Z., Gan, Y., Xiong, J. Zhao, Q., and Chen, J., “Crown Segmentation from Computed Tomography Images with Metal Artifacts” *IEEE Signal Processing Letters*, Vol:23, Issue:5, May 2016
 52. Jiang, F., Kula, K., Du, Y., Gu, H., Eckert, G., Chen, J., “Root Resorptions Associated with Canine Retraction Treatment *American Journal of Orthodontics & Dentofacial Orthopedics*” [Am J Orthod Dentofacial Orthop.](#) 2017 Sep;152(3):348-354. doi: 10.1016/j.ajodo.2017.01.023.
 53. Article title: Authors' response, Reference: YMOD5913, Journal title: *American Journal of Orthodontics & Dentofacial Orthopedics* Corresponding author: Dr. Jie Chen
 54. Jiang, F., Luo, L., Chen, J., Alauddin, S., and Grande, J., “Light transmittance of the periodontium”, *Lasers in Dental Science*, Vol. 1, Issue 2-4, pp 107-115, 2017
 55. Jiang, F., Liu, S., Chen, A., Li, B., Robling, A., Chen, J., Yokota, H., “Finite Element Analysis of the Mouse Distal Femur with Tumor Burden in Response to Knee Loading”, *International Journal of Orthopedics*, 2018;5(1):863-871. Epub 2018 Feb 28.
 56. Wu, D., Amini, A., Razban, A., and Chen, J., “ARC algorithm: a novel approach to forecast and manage daily electrical maximum demand”, *Journal of Energy-The International Journal*, vol 154, pp. 383-389, 4/19/2018
 57. Na, S., TruongVo, T., Jiang, F., Joll, J., Guo, Y., Utreja, A., and Chen, J., “Dose Analysis of Photobiomodulation Therapy on Bone Cells?” Accepted by the *Journal of Biomedical Optics*, June 2018
 58. Yokota, H., Jiang, F., Jalali, A., Deguchi, C. Chen, A., Liu, S., Kondo, R., Minami, K., Li, B., Robling, A., Chen, J., Horiuchi, T., Finite Element Analysis of the Mouse Proximal Ulna in Response to Elbow Loading, Accepted by *Journal of Bone and Mineral Metabolism*, July 2018
 59. Liu, Y., Jiang, F., and Chen, J., “Can interfaces at bracket-wire and between teeth in multi-teeth finite element model be simplified?” Accepted by the *International Journal for Numerical Methods in Biomedical Engineering*, 11/2/2018
 60. Liu, Y, Jian-lei Wu, Shan-ling Song, Lixin Xu, Jie Chen, Wei Peng, “Thermo-Mechanical Properties of Glass Fiber Reinforced Shape Memory Polyurethane for Orthodontic Application” *Journal of Materials Science: Materials in Medicine*, 29:148, 2018
 61. Li, S., Chen, J., Kula, K., “A comparison of movement rate with different initial moment-to-force ratios”, [Volume 156, Issue 2](#), August 2019, Pages 203-209
 62. Razban, A., Khatib. A., Chen, J., Goodman, D. “Modeling of air handling unit subsystem in a commercial building” Accepted by *Thermal Science and Engineering Progress*, 3/25/2019

Refereed Conference Papers/Abstracts

1. Siegler, S., Chen, J., and Seliktar, R., "A system for investigating the kinematics of the human ankle and subtalar joints based on Rodrigues formula and the screw axis parameters," Study Institute and Conference, Biomechanics of Human Movement - Application to Ergonomics, Sports and Rehabilitation, June 1986, Formia, Italy
2. Siegler, S., Chen, J., and Schneck, C.D., "Three dimensional kinematics of the human ankle and subtalar joints," XI International Congress of Biomechanics, June 29 - July 3, 1987, Amsterdam, Holland
3. Siegler, S., Chen, J., and Schneck, C.D., "The three-dimensional kinematics and stiffness characteristics of the human ankle and subtalar joints," ASME 1987 Biomechanics Symposium, June 14-17, 1987, Cincinnati, Ohio
4. Siegler, S., Chen, J., and Schneck, C.D., "The effect of injury to the lateral collateral ligaments on the mechanics; characteristics of the human ankle joints," IEEE Engineering in Medical and Biology, Nov. 4-7, 1988, 10th Annual Conference, New Orleans
5. Siegler, S., Chen, J., and Bahar, L., "Estimation of the screw axis parameter for general finite displacements of rigid body from arbitrary number of noisy observations," Proceedings of the USA-Japan Symposium of Flexible Automation Conference, July 17-20, 1988, Minneapolis, MN
6. Chen, J., Siegler, S., and Schneck, C.D., "Development of a diagnostic technique for ankle ligament Injuries: An in vitro study", Proceedings of the 1989 ASME annual meeting, Dec. 9-14, 1989, San Francisco, CA
7. Garetto, L.P., Chen, J., Katona, T.R., and Roberts, W.E., "Mechanical Testing and Histologic Failure Analysis of Rabbit Mandibular Condyle", Journal of Dental Research, Vol. 70, pp.579, 1991
8. Chen, J., "A finite Element Model of the Human Temporomandibular Joint," 1991 Advances in Bioengineering, BED-Vol. 20, Proceedings of the 1991 ASME annual meeting, Dec. 1991, Atlanta, GA, pp. 399-402
9. Chen, J., Paydar, N., Akay, H.U., and Roberts, W.E., "Mechanical Simulation of the Human Mandible with an Endosseous Implant", IADR General Session and Exhibition, July 1-4, 1992
11. Chen, J., Buckwalter, K., "Motion Analysis of the Temporomandibular Joint from Magnetic Resonance Images", J. Biomechanics, Vol. 26, No. 7, July 1993, pp. 794, 1993
12. Chen, J., Buckwalter, K., "Motion Analysis of the Mandibular Condyle from Magnetic Resonance Images", 1992 Advances in Bioengineering, BED-Vol. 22, pp. 545-548, 1992
13. Chen, J., Lu, X., Paydar, N., Akay, H.U., and Roberts, W.E., "An Investigation of Mechanical Environment within the Human Mandible with and without Endosseous Implant", 1992 Advances in Bioengineering, BED-Vol. 22, pp. 301-304, 1992
14. Chen, J., Chen, K., and Roberts, W.E. "The Effects of Orthodontic Forces on the Stresses in the Periodontal Ligament of Human Mandibular Molars", Proceeding of

- the ASME/AICHE/ASCE Summer Bioengineering Conference, BED-Vol. 24, Colorado, pp. 269-272, June, 1993
15. Burr, D.B., Yoshikawa, T., Mori, S., Santiesteban, J., Sun, T.C., Hafstad, E., and J. Chen, "The Effects of Muscle Fatigue on Bone Strain", 1993 Ortho Res Conference, San Francisco, 1993
 16. Chen, J., and Siegler, S., "A Model to Estimate the Mechanical Environment of the Human Temporomandibular Joint", Proceedings of the 2nd Far Eastern Medical and Biological Conference, Beijing, P.R. China, 1993
 17. Chen, J., Chen, K., and Roberts, W.E. "The effects of Occlusion and Orthodontic Force of the Stresses around an Endosseous Implant", 1993 Advances in Bioengineering, 1993 ASME annual winter meeting, BED-Vol. 26, pp. 431-434, 1993
 18. Chen, J., Xu, L., and Pidaparti, R.V., "Mechanical Analysis of the Human TMJ: A non-linear material model", 1993 Advances in Bioengineering, 1993 ASME annual winter meeting, BED-Vol. 26, pp. 337-340, 1993
 19. Chen, J. and Roberts, W.E., "Computer Simulation of the Human Mandible with an Endosseous Implant", Whitaker Foundation's third annual conference, Snowbird, Utah, July 1993
 20. Chen, J., Roberts, W.E., and Garetto, L.P., "Finite Element Analysis of the Regional Mechanical Environment Surrounding Rigid bone-Implant Interface", J. Dent. Res., Special Issue Abstracts, pp. 330, 1994
 21. Hasegawa, K, Turner, C.H., Chen, J., and Burr, D.B. "Effect of Disc Lesion on Microdamage Accumulation in Lumbar Vertebrae under Cyclic Compression Loading", Proceedings of the Clinical Orthopaedics and Related Research, 1994
 22. Chen, J., Chen, K., Katona, T.K., Baldwin, J.J., and Arbuckle, G., "Mechanical Analysis of Orthodontic Springs", Proceedings of the 1994 International Mechanical Engineering Congress and Exposition, ADVANCES IN BIOENGINEERING 1994, BED-Vol. 28, pp. 389-390, 1994
 23. Xu, L., and Chen, J., "Finite Element Modeling of the Human Temporomandibular Joint", Proceedings of the 1994 International Mechanical Engineering Congress and Exposition, ADVANCES IN BIOENGINEERING 1994, BED-Vol. 28, pp. 379-380, 1994
 24. Zhang, D. and Chen, J., "A Procedure to Analyze the Condylar Displacement" Proceedings of the ASME/AICHE/ASCE Summer Bioengineering Conference, BED-Vol. 30, Colorado, June 1995
 25. Chen, J. and Zhang, D., "Determination of Joint Displacement from its Images" Proceedings of the 1995 CIE/BME/NERC Annual Conference, Beijing, P.R. China, pp. 550-501, 1995
 26. Esterle, M., Chen, J., and Roberts, W.E., 1996, "Stress Analysis around an Endosseous Implant" Proceedings of the Canadian Society for Biomechanics 9th Biennial Conference, August 21-24, 1996, British Columbia, Canada, 1996
 27. Gregg J, and Chen J., The effect of wire fixation methods on the measured force systems of a T-loop orthodontics spring, Proceedings of AAO meeting, Philadelphia, May 1997

28. Hamula, D.W., Katona, T.R., winkler, M.M. and J. Chen. Generation of transient stresses and strains by light polymerization, Campus Research Day, IUPUI, IN, 1997
29. J. Kizior, J. Chen, Dunipace, A., Shanks, J., Turner, C., and Garetto, L. Fluoride and the mandibular condyle: A strength and histomorphometric study. Campus Research Day, IUPUI, IN, 1997
30. Chen, J., Chen, Y., Chien Y.P., Zhang, R., and Zhang, D., "Virtual Prototyping in Concurrent Engineering Design" International Conference on Manufacturing Science for Inside and Oversea Young Scholars" and "The Third S. M. Wu Symposium on Manufacturing Science", Wuhan, P.R. China, June 1998
31. Yokota, H., McKenney, T., Thurairajah, L.S., Abd Rahin, M.T.G., Wallace, M.S., Chen, J., Mechanical Design of DNA Stretching Apparatus, submitted to the International Society of Biomechanics meeting, Calgary, 1999
32. Zhang, J. Chen, J., El-Mounayri, H., PDM-based virtual product development template for optimum design and manufacturing, accepted by the Materials and Manufacturing symposium at the 7th Cairo University International Conference on Mechanical Design & Production, Cairo, Egypt 2000
33. Qian, H., Chen, J., and Katona, T.R., The Effects of PDL Fibers in Orthodontic Tooth Movement, Research Day, IUPUI, 1999
34. Yokota, H., Ikeuchi, M., Murray, E., Othman, R., Slabich, J., Malacinski, G., and Chen, J., Development of Containerless Droplet Reaction System in Low Gravity, submitted to the International Symposium on Optical Science, Engineering, and Instrumentation, July 18-23, 1999, Denver, Colorado, 1999
35. Qian, H., Chen, J., Katona, TR., A finite element analysis of the influence of PDL fibers on orthodontic tooth movement, accepted by the International Society of Biomechanics meeting, Calgary, 1999
36. Zhang, J. Chen, J., El-Mounayri, H., A Generic Template for Collaborative Product Development. Submitted to the Symposium on Virtual Environment for Manufacturing at the International Mechanical Engineering Congress and Exposition, Nashville, Tennessee, 1999
37. Chen, J., Esterle, M., and Roberts, W.E. Bone Response Induced by an Endosseous Implant, Measurements & Simulations in Musculoskeletal Biomechanics Meeting, London, 1999
38. El-Mounayri, H.*, Zhang J.*, Chen J., "PDM-Based System for Manufacturing Process: Analysis and Optimization," Advanced Manufacturing Conference, Cincinnati, Ohio 1999
39. Qian, H., Chen, J., and Katona, T.R., "Generic Finite Element Model Prediction of Single-rooted Tooth Orthodontic Movement ", Fifth International symposium on Computer Methods in Biomechanics and Biomedical Engineering, Rome, 10/31/01-11/3/01
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