

Résumé
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MOHAMMAD NIKKHOO

Ph.D., Assistant Professor

Department of Biomedical Engineering, Science and Research Branch,
Islamic Azad University, Tehran, Iran.

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Academic Degree

Ph.D. (Mechanical Engineering - Biomechanics)

School of Mechanical Engineering, Iran University of Science and Technology
(IUST), Tehran, Iran

Biomechanics Lab, Institute of Biomedical Engineering, National Taiwan University
(NTU), Taipei, Taiwan.

Honors and Awards

- Graduated as 1st rank amongst Biomechanics students in Ph.D. Degree, Iran University of Science and Technology. 2013
 - Scholarship by Iran Ministry of Science, Research and Technology for sabbatical leave at National Taiwan University. 2011-2012
 - Graduated as 1st rank amongst department students in M.Sc. Degree, Iran University of Science and Technology. 2008
 - Awarded honor of the best researcher at Iran University of Science and Technology. 2007
 - Awarded honor of the best internal paper in the 3rd Young Researcher Club Conference. 2005
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Professional Experiences

Research Experiences

- **Assistant Professor**
Department of Biomedical Engineering, Research and Science Branch, Islamic Azad University, Tehran, Iran. 2014 - Present
- **Visiting Doctoral Researcher**
Biomechanics Lab, Institute of Biomedical Engineering, National Taiwan University (NTU), Taipei, Taiwan. 2011 - 2012
- **Research Assistant**
Biomechanics Research Lab, School of Mechanical Engineering, Iran University of Science and Technology, 2006 - 2011

Tehran, Iran.

- **Supervisor of Biomechanics Research Group**
Health Engineering & Innovation Department, Technology Research Center of Sharif University, Tehran, Iran. 2009 - 2010
- **Visiting Researcher**
NonoMedicine and Tissue Engineering Research Center, Shaheed Beheshti University of Medical Sciences, Tehran, Iran. 2006-2008

Teaching Experiences

Graduate Courses:

Computer Methods in Biomedical Engineering, (M.Sc.)	2007 - 2011
Finite Element Methods (FEM), (M.Sc. and Ph.D.)	2014 - Present
Orthopaedic Biomechanics, (M.Sc. and Ph.D.)	2016 - Present
Biomechanics of Musculoskeletal System, (M.Sc. and Ph.D.)	2016 - Present
Tissue Mechanics, (M.Sc. and Ph.D.)	2016 - Present

Undergraduate Courses:

Statics	2010 - 2016
Mechanics of Materials	2010 - 2016
Engineering Mathematics	2013 - 2014
Introduction to the Instrumentations of the Hospitals and Clinical Centers	2014 - 2015
Dynamics	2014 - Present
Theory of Vibration	2014 - Present
Introduction to Biomedical Engineering	2014 - 2016
Principles of Biomechanics II	2014 - 2016

Software Courses:

ANSYS	2008 - 2010
MIMICS	2008 - 2014
ABAQUS	2010-Present
MATLAB	2010-2012
SPSS	2013-2014

Publications

Book Chapter

1. Haghpanahi M., **Nikkhoo M.**, Peirovi H., “Computer Aided Tissue Engineering from Modeling to Manufacturing”, Handbook of Research on Biocomputation and Biomedical Informatics: Case Studies and Applications, Medical Information Science Reference, USA, pp. 75-88, 2010.

Journal Publications

2. **Nikkhoo M.**, Wang J. L., Parnianpour M., El-Rich M., Khalaf K., “Biomechanical response of intact, degenerated and repaired intervertebral discs under impact loading–Ex-vivo and In-Silico investigation”, Journal of Biomechanics, Vol. 70, pp. 26-32, 2018.
3. **Nikkhoo M.**, Wang J. L., Abdollahi M., Hsu Y. C., Parnianpour M., Khalaf K., “A Regenerative Approach Towards Recovering the Mechanical Properties of Degenerated Intervertebral Discs: Genipin and Platelet-Rich Plasma Therapies”, Proceedings of the Institution of Mechanical Engineers, Part H, Journal of Engineering in Medicine, Vol. 231, Issue 2, pp. 127-137, 2017.
4. Abdollahi M., **Nikkhoo M.**, Ashouri S., Asghari M., Parnianpour M., Khalaf K., “A Model for Flexi-bar to Evaluate Intervertebral Disc and Muscle Forces in Exercises”, Medical Engineering and Physics, Vol. 38, Issue 10, pp. 1076-1082, 2016.
5. Moradi S., Haghpanahi M., **Nikkhoo M.**, “Biomechanical Effect of longitudinal meniscal tear with or without anterior cruciate ligament tear in Knee (Finite Element Analyses)”, (In Farsi), Iranian Journal of Orthopaedic Surgery, Vol. 14, Issue 2 & 3, pp.57-63, 2016.
6. **Nikkhoo M.**, Najafzadeh S., Kargar R., “Effect of Artificial Degeneration Induced by Needle Puncture on Time-Dependent Response of Intervertebral Disc”, (In Farsi), Iranian Journal of Biomedical Engineering, Vol. 9, Issue 4, pp.317-326, 2016.
7. **Nikkhoo M.**, Khalaf K., Kuo Y.W., Hsu Y. C., Haghpanahi M., Parnianpour M., Wang J. L., “Effect of Degeneration on Fluid-Solid Interaction within Intervertebral Disc under Cyclic Loading – A Meta-Model Analysis of Finite Element Simulations”, Frontiers in Bioengineering and Biotechnology, Vol. 3, No. 4, 2015.
8. **Nikkhoo M.**, Kuo Y.W., Hsu Y. C., Khalaf K., Haghpanahi M., Parnianpour M., Wang J. L., “Time-dependent Response of Intact Intervertebral Disc – In-vitro and In-silico Study on the Effect of Loading Mode and Rate”, Engineering Solid Mechanics, Vol. 3, Issue 1, pp. 51-58, 2015.
9. Amjadi Kashani M. R., **Nikkhoo M.**, Khalaf K., Firoozbakhsh K., Arjmand N., Razmjoo A., Parnianpour M., “An In-silico Parametric Model of Vertebrae trabecular Bone Based on Density and Microstructural Parameters to Assess Risk of Fracture in Osteoporosis”, Proceedings of the Institution of Mechanical Engineers, Part H, Journal of Engineering in Medicine, Vol. 228,

10. **Nikkhoo M.**, Tahassory A., Haghpanahi M., “Design and Biomechanical Study of the First Iranian Cervical Cage using Finite Element Analyses”, (In Farsi), Iranian Journal of Biomedical Engineering, Vol. 8, Issue 3, pp.203-212, 2014.
11. Hsu Y.C., Kuo Y.W., Chang Y.C., **Nikkhoo M.**, Wang J. L., “Rheological and Dynamic Integrity of Simulated Degenerated Disc and Consequences after Cross-linker Augmentation”, Spine (Phila Pa 1976), Vol. 38, No. 23, pp. E1446-E1453, 2013.
12. **Nikkhoo M.**, Hsu Y. C., Haghpanahi M., Parnianpour M., Wang J. L., “A Meta-Model Analysis of a Finite Element Simulation for Defining Poroelastic Properties of Intervertebral Discs”, Proceedings of the Institution of Mechanical Engineers, Part H, Journal of Engineering in Medicine, Vol. 227, Issue 6, pp. 672-682, 2013.
13. **Nikkhoo M.**, Hsu Y. C., Haghpanahi M., Parnianpour M., Wang J. L., “Material Property Identification of Artificial Degenerated Intervertebral Disc Models - Comparison of Inverse Poroelastic Finite Element Analysis with Biphasic Closed Form Solution”, Journal of Mechanics, Vol. 29, Issue 4, pp. 589-597, 2013.
14. Gohari E., **Nikkhoo M.**, Haghpanahi M., Parnianpour M., “Analysis of Different Material Theories Used in a FE Model of a Lumbar Segment Motion”, Acta of Bioengineering and Biomechanics, Vol. 15, No.2, pp. 33-41, 2013.
15. **Nikkhoo M.**, Haghpanahi M., Parnianpour M., Wang J. L., “Dynamic Responses of Intervertebral Disc during Static Creep and Dynamic Cyclic Loading: A Parametric Poroelastic Finite Element Analysis”, Journal of Biomedical Engineering: Applications, Basis and Communications, Vol. 25, No.1, 2013.
16. Khan M. F., Malik A. S., Xia L., Wang J. L., **Nikkhoo M.**, Parnianpour M., Khan M. I., “Investigation of Low Back Pain using System Modeling”, Journal of Advanced Science Letters, Vol. 19, No. 5, pp. 1260-1265, 2013.
17. **Nikkhoo M.**, Haghpanahi M., Wang J.L., Parnianpour M., “A Poroelastic Finite Element Model to Describe the Time-Dependent Response of Lumbar Intervertebral Disc”, Journal of Medical Imaging and Health Informatics, Vol. 1, No. 3, pp. 246-251, 2011.
18. **Nikkhoo M.**, Haghpanahi M., Wang J.L., Parnianpour M., “Axisymmetric Poroelastic FE Modeling of Intervertebral Disc for Investigation of Lumbar Spine Biomechanics” , (In Farsi), Iranian Journal of Biomedical Engineering, Vol. 5, Issue 1, pp.21-32, 2011.
19. Haghpanahi M., **Nikkhoo M.**, Peirovi H. “Triphasic Finite Element Modeling of Intervertebral Disc for Biomechanical Studies in Tissue Engineering “ , (In Farsi), Iranian Journal of Biomedical Engineering, Vol. 2, Issue 1, pp.47-56, 2008.

20. Hosseini-Sianaki A. and **Nikkhoo M.**, “Modeling and Simulation of an Intelligent ER Force Element for Rehabilitation of Human Hands”, *Studies in Health Technology and Informatics*, Vol.133, pp.132-140, 2008.
21. Haghpanahi M., **Nikkhoo M.**, Peirovi H., Ghanavi J., “Mathematical Modeling of the Intervertebral Disc as an Infrastructure for Studying the Mechanobiology of the Tissue Engineering Procedure”, *Transaction on Applied and Theoretical Mechanics*, Vol.2, Issue 12, pp.263-275, 2007.

Conference Proceedings

22. **Nikkhoo M.**, Hojati M., El-Rich M., Parnianpour M., Khalaf K., “Development of a Validated Musculoskeletal Model to Predict Spinal loading for Volleyball Athletes”, 15th International Symposium on Computer Methods in Biomechanics (CMBBE), Lisbon, Portugal, March 26-29, 2018.
23. Khalaf K., **Nikkhoo M.**, El-Rich M., Cheng C.H., “Evaluation of Cervical Laminectomy on Intervertebral Motions Using a Validated Parametric Subject-Specific Finite element Model”, 15th International Symposium on Computer Methods in Biomechanics (CMBBE), Lisbon, Portugal, March 26-29, 2018.
24. Cheng C.H., Niu C.C., Lu M.L., Chen W.C., Fu C.J., **Nikkhoo M.**, Liu X.T., “One-Year Comparative Functional Outcomes of Open and Minimally Invasive Transforaminal Lumbar Interbody Fusion in Patients with Degenerative Lumbar Disease”, 64th Orthopaedic Research Society (ORS) Annual Meeting, New Orleans, LA, USA, March 10-13, 2018.
25. Shahbahrami M., **Nikkhoo M.**, “Assessment of the Compressive Strength of Vertebrae Based on Computational Model Using QCT Images Finite Element Modeling and Validation with In-Vitro Experiments” (In Farsi), 24th Iranian Conference on Biomedical Engineering, Tehran, Iran, November 29-December 1, 2017.
26. **Nikkhoo M.**, Arbabzadeh F., Cheng C.H., Khalaf K., “Development of a Parametric Subject-Specific Finite Element Model of the Lower Cervical Spine to Evaluate the Effect of Disease on the Motion Patterns”, 25th European Orthopaedic Research Society (EORS) Annual Meeting, Munich, Germany, September 13-15, 2017.
27. Khalaf K., **Nikkhoo M.**, Shahbahrami M., Parnianpour M., “Development of a Validated Voxel-based Finite Element Model to Predict the Risk Factors for Vertebral Fractures”, 25th European Orthopaedic Research Society (EORS) Annual Meeting, Munich, Germany, September 13-15, 2017.
28. Khalaf K., Najafzadeh S., **Nikkhoo M.**, “The Influence of Needle Puncture on the Viscoelastic Properties of the Intervertebral Disc”, 23rd Congress of the European Society of Biomechanics, Seville, Spain, July 2-5, 2017.
29. **Nikkhoo M.**, Khalaf K., Parnianpour M., Wang J.L., “Biomechanical Response of Intact and Degenerated Intervertebral Discs under Impact Loading”, 2nd International Workshop on Spine Loading and Deformation,

Berlin, Germany, May 18-20, 2017.

30. Cheng C.H., Niu C.C., Lu M.L., Chen W.C., **Nikkhoo M.**, Hwang Y.C., “Functional Outcome Following Open Versus Minimally Invasive Transforaminal Lumbar Interbody Fusion in Patients with Degenerative Lumbar Disease”, 63rd Orthopaedic Research Society (ORS) Annual Meeting, San Diego, California, USA, March 19-22, 2017.
31. Najafzadeh S., Hajhassani D., **Nikkhoo M.**, “Studying the Viscoelastic Behavior of Intact and Injured Intervertebral Disc Based on In-Vitro Experiments” (In Farsi), 4th National & 2nd International Conference on Applied Research in Electrical, Mechanical & Mechatronics Engineering, Tehran, Iran, February 17, 2017.
32. **Nikkhoo M.**, Najafzadeh S., Hajhassani D., Kargar R., Eghbali P., “Dynamic Behavior of Intact and Injured Intervertebral Disc Subjected to Cyclic Loading” (In Farsi), 23rd Iranian Conference on Biomedical Engineering, Tehran, Iran, November 23-25, 2016.
33. Khalaf K., **Nikkhoo M.**, Kargar R., Najafzadeh S., “The Effect of Needle Puncture Injury on the Biomechanical Response of Intervertebral Discs”, 24th European Orthopaedic Research Society (EORS) Annual Meeting, Bologna, Italy, September 14-16, 2016.
34. Khalaf K., **Nikkhoo M.**, Kuo Y.W., Hsu Y.C., Parnianpour M., Campbell-Kyureghyan N., Haghpanahi M., Wang J.L., “Recovering the Mechanical Properties of Denatured Intervertebral Discs through Platelet-Rich Plasma Therapy”, 37th Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBS), Milan, Italy, August 25-29, 2015.
35. Nazemzadeh N., **Nikkhoo M.**, Parnianpour M., Wang J.L., Khalaf K., “Identification of the Hyperelastic Material Properties of Intact Intervertebral Discs”, 37th Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBS), Milan, Italy, August 25-29, 2015.
36. Khalaf K., Abdollahi M., **Nikkhoo M.**, Asghari M., Hoviattalab M., Ashouri S., Nikpour S.H., Kahrizi S., Parnianpour M., “The Influence of Initial Position of a Flexible Bar on the Lumbar Discs and Muscles Forces: A Sensitivity Analysis”, 37th Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBS), Milan, Italy, August 25-29, 2015.
37. **Nikkhoo M.**, Tahassory A., Haghpanahi M., “A Novel Meta-Model Analysis of Finite Element Simulations to Optimize the Design of Cervical Cage”, 21st European Society of Biomechanics (ESB), Prague, Czech Republic, July 5-8, 2015.
38. Khalaf K., **Nikkhoo M.**, Kuo Y.W., Hsu Y.C., Haghpanahi M., Parnianpour M., Wang J.L., “Influence of Injected Crosslinker on Poroelastic Material Properties of Degenerated Disc”, 21st European Society of Biomechanics (ESB), Prague, Czech Republic, July 5-8, 2015.
39. Khalaf K., Abdollahi M., Parnianpour M., **Nikkhoo M.**, Hoviattalab M., Asghari M., Ashouri S., Nikpour S., “A Lumped Parameter Model of the

Flexibar: Towards Investigating the Effect of Vibration Training on The Musculoskeletal System”, 21st European Society of Biomechanics (ESB), Prague, Czech Republic, July 5-8, 2015.

40. Bakhshande Nejad P., Sharifi M., **Nikkhoo M.**, Arjmand N., Khalaf K., Campbell-Kyureghyan N., and Parnianpour M., “Robust Adaptive Control of a Lumbar Spine Model for Simulation of In-Vivo Motions”, IEEE USA Annual Meeting 2015 and 36th Great Lakes Biomedical Conference, Milwaukee, Wisconsin, USA, May 14-17, 2015.
41. **Nikkhoo M.**, Tahassory A., Haghpanahi M., “Biomechanical Study of the Iranian Cervical Cage Based on Finite Element Modeling”, 21st Iranian Conference on Biomedical Engineering, Tehran, Iran, November 26-28, 2014.
42. Lin C. C., Lin W. J., Chou W. K., Chien A., **Nikkhoo M.**, Lai D. M., Wang J. L., “A Novel Patient-Specific Parametric Finite Element Model (FEM) Analysis Identified An Increase in Upper Adjacent Level Intradiscal Pressure Post-Operatively In Cervical Spondylotic Myelopathy”, 60th Orthopaedic Research Society (ORS) Annual Meeting, New Orleans, Louisiana, USA, March 15-18, 2014.
43. **Nikkhoo M.**, Kuo Y. W., Hsu Y. C., Haghpanahi M., Parnianpour M., Wang J. L., “Effect of Degeneration on Fluid-Solid Interaction within Intervertebral Disc under Cyclic Loading – A Poroelastic Finite Element Model Optimized by Backward Algorithm”, 59th Orthopaedic Research Society (ORS) Annual Meeting, San Antonio, Texas, USA, January 26-29, 2013.
44. **Nikkhoo M.**, Kuo Y. W., Chuang I. T., Hsu Y. C., Haghpanahi M., Parnianpour M., Wang J. L., “Influence of Artificial Degeneration Methods on Stress Distribution in Intervertebral Disc”, Biomedical Engineering Society (BMES) Annual Meeting, Atlanta, Georgia, USA, October 24-27, 2012.
45. Kuo Y. W., Hsu Y. C., Chang Y. C., Chuang I. T., Lin J. H., **Nikkhoo M.**, Wang J. L., “Comparison of Crosslinking Reagent and Platelet-Rich Plasma Therapeutic Efficacies on Biomechanical Functions and Biochemistry Properties of Degraded Intervertebral Disc – An Ex Vivo Study using Whole Organ Culture System”, International Conference on Tissue Science & Engineering, Chicago, USA, October 1-3, 2012.
46. **Nikkhoo M.**, Hsu Y. C., Chuang I. T., Lin J. H., Haghpanahi M., Parnianpour M., Wang J. L., “Effect of Loading Mode and Rate on Time-Dependent Response of Intervertebral Disc”, 18th European Society of Biomechanics (ESB), Lisbon, Portugal, July 1-4, 2012 (Journal of Biomechanics, Vol. 45, Suppl. 1, pp. S614, 2012).
47. Hsu Y. C., Chuang I. T., Lin J. H., **Nikkhoo M.**, Chang Y. C., Wang J. L., “Assessment of Exogenous Crosslinking Therapy for Biochemical and Mechanical Induced Degeneration”, 18th European Society of Biomechanics (ESB), Lisbon, Portugal, July 1-4, 2012 (Journal of Biomechanics, Vol. 45, Suppl. 1, pp. S617, 2012).
48. Chuang I. T., Hsu Y. C., Lin J. H., **Nikkhoo M.**, Wang J. L., “Disc Rheology Changes in Degenerated Discs Models by Trypsin and Glycation”, 18th European Society of Biomechanics (ESB), Lisbon, Portugal, July 1-4, 2012

(Journal of Biomechanics, Vol. 45, Suppl. 1, pp. S619, 2012).

49. Khan M. F., Malik A. S., Rozana F., Xia L., **Nikkhoo M.**, Wang J. L., Parnianpour M., “On Low Back Pain: Identification of Structural Changes in System Parameters for Fatigue Loaded Intervertebral Disc using PCA”, The World Engineering, Science and Technology Congress, 4th International Conference on Intelligent & Advanced Systems, Kuala Lumpur, Malaysia, June 12-14, 2012.
50. Khan M. F., Malik A. S., Xia L., **Nikkhoo M.**, Wang J. L., Parnianpour M., “Fatigue Loaded Intervertebral Disc Analysis for Low Back Pain Using Nonlinear Black-Box Model”, World Congress 2012 Medical Physics and Biomedical Engineering, Beijing, China, May 26-31, 2012.
51. **Nikkhoo M.**, Hsu Y. C., Chang Y. C., Haghpanahi M., Parnianpour M., Wang J. L., “Biphasic Material Properties of Biochemical and Biomechanical Degenerated Intervertebral Disc – An Ex Vivo Porcine Disc Creep Test with Optimization of Finite Element Simulation”, 58th Orthopaedic Research Society (ORS) Annual Meeting, San Francisco, California, February 4-7, 2012.
52. Hsu Y. C., Chang Y. C., Chuang I. T., Lin J. H., Kuo Y. W., **Nikkhoo M.**, Wang J. L., “Comparison of Natural Crosslinking Reagent and Platelet-Rich Plasma Therapy on Recovering Disc Dynamic Property – An Ex Vivo Study Using Whole Organ Culture System”, 58th Orthopaedic Research Society (ORS) Annual Meeting, San Francisco, California, February 4-7, 2012.
53. Hsu Y. C., Chang Y. C., Lin J. H., Chuang I. T., Kuo Y. W., **Nikkhoo M.**, Wang J. L., “Exogenous Crosslinker Assists Disc Structural and Functional Recovery from Biochemical and Mechanical Induced Degeneration – An Ex Vivo Study Using Whole Disc Culture System”, 58th Orthopaedic Research Society (ORS) Annual Meeting, San Francisco, California, February 4-7, 2012.
54. Chuang I. T., Hsu Y. C., Chang Y. C., Lin J. H., Kuo Y. W., **Nikkhoo M.**, Wang J. L., “Comparison of Intervertebral Disc Water Content And Dynamic Properties Degradation Due to Trypsin and Glycation Induced Degeneration – An Ex Vivo Porcine Disc Model”, 58th Orthopaedic Research Society (ORS) Annual Meeting, San Francisco, California, February 4-7, 2012.
55. Haghpanahi M., Gohari E., **Nikkhoo M.**, Parnianpour M., Ganjavian M., Kamyab M., Kamal Z., “Response of the Lumbar Motion Segment Subjected to Cyclic Loading- On the Basis of Defining a New Element”, Proc. of the XXIIIrd Congress of International Society of Biomechanics (ISB), Brussels, Belgium, July 3-7, 2011.
56. **Nikkhoo M.**, Haghpanahi M., Parnianpour M., Wang J.L., “An Axisymmetric Poroelastic Model for Description of the Short-Term and Long-Term Creep Behavior of L4-L5 Intervertebral Disc”, 1st Middle East Conference on Biomedical Engineering (MECBME), Sharjah, UAE, February 21-24, 2011.
57. Haghpanahi M., **Nikkhoo M.**, Parnianpour M., Wang J.L., Gohari E., “Numerical Poroelastic Modeling of Lumbar Disc Degeneration Subjected to Dynamic Loading”, FNR Congress 2011, University of Shaheed Beheshti,

Tehran, Iran, January 2011.

58. Haghpanahi M., Gohari E., **Nikkhoo M.**, Parnianpour M., Ganjavian M., Kamyab M., “Viscoelastic FE Modeling of a Lumbar Motion Segment (L4/L5) Subjected to Dynamic Loading”, FNR Congress 2011, University of Shaheed Beheshti, Tehran, Iran, January 2011.
59. Yazdani N., **Nikkhoo M.**, Haghpanahi M., “Extraction of a Hyperelastic Model of Lumbar Intervertebral Disc on the Basis of Mechanical Experimental Investigation on Sheep Spine” (In Farsi), 17th Iranian Conference on Biomedical Engineering, Isfahan Medical University, Isfahan, Iran, November 3-4, 2010.
60. **Nikkhoo M.**, Haghpanahi M., Peirovi H., “Computational Modeling for Intervertebral Disc Tissue Engineering”, 2nd Tissue Engineering and Regenerative Medicine International Society (TERMIS) World Congress, Seoul, South Korea, August 31~ September 3, 2009.
61. **Nikkhoo M.**, Haghpanahi M., Peirovi H., “Effects of Electrochemical Parameters on Mechanical Behavior of Intervertebral Disc Based on a Triphasic Finite Element Model”, XXIInd Congress of International Society of Biomechanics (ISB), Cape Town, South Africa, July 5-9, 2009.
62. Haghpanahi M., **Nikkhoo M.**, Peirovi H., “Mechanobiological Models for Intervertebral Disc Tissue Engineering”, 1st International Conference on Biomedical Electronics and Biomedical Informatics, Rhodes, Greece, August 20-22, 2008.
63. Haghpanahi M., **Nikkhoo M.**, Peirovi H., Ghanavi J., “Triphasic Model of Intervertebral Disc as a Hydrated Soft Tissue” (In Farsi), 16th International Conference of Mechanical Engineering, Shaeed Bahonar Kerman University, Iran, May 2008.
64. **Nikkhoo M.**, Haghpanahi M., Peirovi H., Ghanavi J., “Mathematical Model for Tissue Engineered Intervertebral Disc as a Saturated Porous Media”, 3rd International Conference on Applied and Theoretical Mechanics, Tenerife, Spain, December 2007.
65. Haghpanahi M., **Nikkhoo M.**, Peirovi H., Ghanavi J., “Intervertebral Disc Biomechanics (Review Paper)” (In Farsi), 2nd Mechanical Engineering Conference, Azad University, Shahr-e-Ray University, Tehran, Iran, October 2007.
66. Haghpanahi M., **Nikkhoo M.**, Peirovi H., Ghanavi J., “A Poroviscoelastic Finite Element Formulation Including Transport and Swelling for Tissue Engineered Intervertebral Disc”, European Society of Biomechanics Workshop, Trinity College of Dublin, Ireland, August 26-28, 2007.
67. Hosseini-Sianaki A. and **Nikkhoo M.**, “Modeling and Simulation of an Intelligent Damper for Rehabilitation of Human Hands”, Applied Biomechanics Conference, Regensburg University, Regensburg, Germany, June 13-15, 2007.
68. Hosseini-Sianaki A. and **Nikkhoo M.**, “Haptic Devices for Telesurgery”,

Proc. of the Mechanical Engineering Conference, Azad University, Shahr-e-Ray University, Tehran, Iran, December 2006.

69. **Nikkhoo M.**, Hosseini-Sianaki A., “Smart Material Systems and mechanical applications” (In Farsi), 3rd Young Researcher Club Conference, February 2005.

Magazine Publications

70. **Nikkhoo M.**, “Smart Materials: New and Promising Device for Engineers” (In Farsi), Andishegostar Magazine, Vol.50, September 2005.
71. **Nikkhoo M.**, “Management of the Research Activities in Production Development” (In Farsi), Andishegostar Magazine, Vol.30, December 2003.
72. **Nikkhoo M.**, “Decreasing the Pollution with CNG and LNG” (In Farsi), Andishegostar Magazine, Vol.27-28, September 2003.
73. **Nikkhoo M.**, “Designing the Measurement instruments on the basis of Microcomputers” (In Farsi), Andishegostar Magazine, Vol.25, June 2003.
74. **Nikkhoo M.**, “Fuel cell vehicles” (In Farsi), Andishegostar Magazine, Vol.24, May 2003.
75. **Nikkhoo M.**, “Development of Car safety on the basis of Microprocessor” (In Farsi), Andishegostar Magazine, Vol.23, April 2003.
76. **Nikkhoo M.**, “Child Safety Initiatives” (In Farsi), Andishegostar Magazine, Vol.22, March 2003.
77. **Nikkhoo M.**, “Introduction to Airbag Technologies” (In Farsi), Andishegostar Magazine, Vol.21, February 2003.
78. **Nikkhoo M.**, “Introduction to Safety Belt Technologies” (In Farsi), Andishegostar Magazine, Vol.20, January 2003.
79. **Nikkhoo M.**, “Latest Progress in Vehicle Safety” (In Farsi), Safir Saipa Magazine, Vol.5, August 2002.
80. **Nikkhoo M.**, “Introduction to Hybrid Cars” (In Farsi), Safir Saipa Magazine, Vol.4, July 2002.
81. **Nikkhoo M.**, “Introduction to ABS System” (In Farsi), Safir Saipa Magazine, Vol.4, July 2002.
82. **Nikkhoo M.**, “Could Hydrogen Be the Fuel of the Future?” (In Farsi), Andishegostar Magazine, Vol.14, December 2001.

Research Interests

- Spine Biomechanics
- Orthopaedic Biomechanics
- Mathematical Modeling in Biomechanics
- Experimental Methods on Tissue Mechanics
- Spinal Surgery Instrument and Implantation

Skills

- **Language:** Native Farsi, Fluent in English, Beginner in Chinese
- **Software:** ABAQUS, ANSYS, AutoCAD, MATLAB, MIMICS, LabVIEW, SolidWorks, SPSS.
- **Programming:** Fortran, Visual Basic

Interests and Activities

- Calligraphy (Member of Iranian Calligraphy Association, Degree of Mumtaz)
- Reading
- Traveling

References

- **Mohammad Haghpanahi, Ph.D., Associate Professor**
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 - **Mohamad Parnianpour, Ph.D., Professor**
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 - **Jaw Lin Wang, Ph.D., Professor**
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 - **Kinda Khalaf, Ph.D., Associate Professor and Associate Chair for Biomedical Engineering Department**
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