

Niema M Pahlevan, PhD

Assistant Professor of Aerospace & Mechanical Engineering
Viterbi School of Engineering
Assistant Professor of Medicine, Division of Cardiovascular Medicine
Keck School of Medicine
University of Southern California
Email: pahlevan@usc.edu

Curriculum Vitae

Research Interests

- Biofluid Dynamics
- Minimally Invasive Technologies in Medicine
- Modeling Physiological Systems
- Time-Frequency Analysis
- Physics of Fluids in Cardiovascular and Cerebrovascular Diseases
- Hemodynamic Monitoring
- Noninvasive Diagnostic Methods
- Cardiovascular MRI
- Physics Based Machine Learning

Education

- **PhD, Bioengineering, 2007 – 2013 (*Best Thesis Defense Presentation Award*)**
California Institute of Technology, Pasadena, CA
Thesis title: “A Systems Approach to Cardiovascular Health and Disease with a Focus on Aortic Wave Dynamics”
- **M.S, Mechanical Engineering, 2005-2007 (*With Distinction*)**
California State University, Northridge, CA
Thesis title: “A State-space Analysis during Pedaling of Optimized Ergometric Bicycle”
- **B.S., Mechanical Engineering, 1996-2001**
University of Tehran, Tehran, Iran

Academic Employment

- **Assistant Professor of Aerospace & Mechanical Engineering, 01/2017-Present**
University of Southern California, Los Angeles, CA
- **Assistant Professor of Medicine, Division of Cardiovascular Medicine 08/2017-Present**
University of Southern California, Los Angeles, CA
- **James Boswell Postdoctoral Scholar, 05/2014–12/2016**
California Institute of Technology, Pasadena, CA
- **Clinical Research Investigator, 05/2014- 12/2016**
Huntington Medical Research Institute (HMRI), Pasadena, CA
- **Postdoctoral Scholar, Medical Engineering, 06/2013 – 04/2014**
California Institute of Technology, Pasadena, CA

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Peer-Reviewed Journal Publications

Students and Research Associates (Postdocs, Fellows, Residents) underlined

29. Cooper LL, Rong J, **Pahlevan NM**, Rinderknecht DG, Benjamin EJ, Hamburg NM, Ramachandran VS, Larson MG, Gharib M, and Mitchell GF. (2021) "Intrinsic frequencies of carotid pressure waveforms predict heart failure events: the Framingham Heart Study". *Hypertension*, (**In Press**)
28. Iskander A, Naftalovich R, and **Pahlevan NM**. "The Carotid Sinus as a Viscometer." *Diagnostics* 10.11 (2020): 924.
27. Mogadam E, Shavelle DM, Giesler, GM., Economides C, Pierre LS, Duquette S, Matthews RV, **Pahlevan NM**. (2020) "Intrinsic frequency method for instantaneous assessment of left ventricular-arterial coupling after transcatheter aortic valve replacement". *Physiological Measurement*, 41(8): 085002.
26. Wei H, Cheng AL, and **Pahlevan NM**. (2020) "On the Significance of Blood Flow Shear-rate-dependency in Modeling of Fontan Hemodynamics". *European Journal of Mechanics-B/Fluids*, 84:1-14
25. Aghilinejad A, Amlani F, King KS, and **Pahlevan NM**. (2020) "Dynamic Effects of Aortic Arch Stiffening on Pulsatile Energy Transmission to Cerebral Vasculature as A Determinant of Brain-Heart Coupling". *Nature Scientific Reports*, 10(1): 1-12
24. **Pahlevan NM**, Yao T, Chu K, Cole S, Tran T, Wood JC, and King KS. (2020) "Group delay method for MRI aortic pulse wave velocity measurements in clinical protocols with low temporal resolution: Validation in a heterogeneous cohort". *Magnetic Resonance Imaging*, 69: 8-15.
23. **Pahlevan NM** and Mazandarani SP. (2020) "Accuracy of Wave Condition Number from Pressure Waveform Alone and Its Changes with Advancing Age in Healthy Women and Men". *Frontiers in Physiology*, 11: 313.
22. Rinderknecht DG, de Balasy JM, and **Pahlevan NM**. (2020) "A wireless optical handheld device for carotid waveform measurement and its validation in a clinical study". *Physiological Measurement*, 41(5):055008.
21. Miller J, Shepherd J, Rinderknecht DG, Cheng AL, and **Pahlevan NM**. (2020) "Proof-Of-Concept For A Non-invasive, Portable, and Wireless Device for Cardiovascular Monitoring in Pediatric Patients". *PLoS ONE*, 15(1): e0227145.
20. Amlani F and **Pahlevan NM**. (2020) "A stable high-order FC-based methodology for hemodynamic wave propagation". *Journal of Computational Physics*, 405, p.109130
19. Kang J, Aghilinejad A, and **Pahlevan NM**. (2019) "On the accuracy of displacement-based wave intensity analysis: Effect of vessel wall viscoelasticity and nonlinearity. *PLOS ONE*. 14:e0224390
18. Cheng AL, Wee CP, **Pahlevan NM**, and Wood JC. (2019) "A 4D Flow MRI Evaluation of the Impact of Shear-Dependent Fluid Viscosity on in vitro Fontan Circulation Flow". *American Journal of Physiology-Heart and Circulatory Physiology*. 317(6), H1243-H1253
17. **Pahlevan NM** and Matthews RV. (2019) "Cardiac Triangle Mapping: A New Systems Approach for Noninvasive Evaluation of Left Ventricular End Diastolic Pressure. *Fluids*. 4(1):16.
16. Armenian SH, Rinderknecht DG, Au K, Lindenfeld L, Mills G, Siyahian A, Herrera C, Wilson K, Venkataraman K, Mascarenhas K, Tavallali P, Razavi M, **Pahlevan NM**, Detterich J, Bhatia S, Gharib M.

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- (2018) “Accuracy of a Novel Handheld Wireless Platform for Detection of Cardiac Dysfunction in Anthracycline-Exposed Survivors of Childhood Cancer”. *Clinical Cancer Research*. 24 (13): 3119-3125.
15. Tavallali P, Razavi M, and **Pahlevan NM**. (2018) “Artificial Intelligence Estimation of Carotid-Femoral Pulse Wave Velocity Using Carotid Waveform.” *Nature Scientific Reports*. 8(1), 1014.
 14. Cheng AL, **Pahlevan NM**, Rinderknecht DG, Wood JC, and Gharib M (2018). “Experimental investigation of the effect of non-Newtonian behavior of blood flow in the Fontan circulation”. *European Journal of Mechanics-B/Fluids*. 68:184-192.
 13. **Pahlevan NM**, Rinderknecht DG, Tavallali P, Razavi, M., Tran TT, Fong M, Kloner RA, Csete M, and M Gharib (2017). “Noninvasive iPhone Measurement of Left Ventricular Ejection Fraction Using Intrinsic Frequency Methodology”. *Critical Care Medicine*, 45(7): 1115-1120.
 12. Tavallali P, Hou TY, Rinderknecht DG, and **Pahlevan NM**. (2015) “On the Convergence and Accuracy of the Cardiovascular Intrinsic Frequency Method”. *Royal Society Open Science*. 2(12): p.150475
 11. Petrasek D, **Pahlevan NM**, Tavallali P, Rinderknecht DG, and M Gharib. (2015) “Intrinsic Frequency and the Single Wave Biopsy: Implications for Insulin Resistance”. *Journal of Diabetes Science and Technology*. 9(6):1246-1252
 10. Falahatpisheh A, **Pahlevan NM**, and A Kheradvar (2015) “Effect of the Mitral Valve’s Anterior Leaflet on Axisymmetry of Transmitral Vortex Ring”. *Annals of Biomedical Engineering*. 43:2349-2360.
 9. **Pahlevan NM**, Tavallali P, Rinderknecht DG, Petrasek D, Matthews R, Hou TY, and M Gharib (2014). “Intrinsic Frequency as a Systems Approach to Hemodynamic Waveform Analysis with Clinical Applications”. *Journal of the Royal Society Interface*. 11(98): 20140617
 8. **Pahlevan NM** and M Gharib. (2014) “A Wave Dynamics Criterion for Optimization of Mammalian Cardiovascular System”. *Journal of Biomechanics*. 47(7): 1727-1732
 7. **Pahlevan NM** and M Gharib. (2014) “A Bio-Inspired Approach for the Reduction of Left Ventricular Workload”. *PLoS ONE* 9(1): e87122
 6. **Pahlevan NM** and M Gharib. (2014) “Pathological Wave Dynamics: A Postulate for Sudden Cardiac Death in the Athletes”. *Medical Hypotheses*. 82(1): 64–70
 5. **Pahlevan NM** and M Gharib. (2013) “In-Vitro Investigation of a Potential Wave Pumping Effect in Human Aorta”. *Journal of Biomechanics*. 46(13): 2122–2129
 4. **Pahlevan NM** and M Gharib. (2011) "Aortic Wave Dynamics and Its Influence on Left Ventricular Workload". *PLoS ONE* 6(8): e23106.
 3. **Pahlevan NM** and M Gharib. (2011) "Low Pulse Pressure with High Pulsatile External Left Ventricular Power: Influence of Aortic Waves". *Journal of Biomechanics*. 44(11): 2083–2089.
 2. **Pahlevan NM**, Amlani F, Gorji H, Hussain F, and M Gharib. (2011) “A Physiologically Relevant, Simple Outflow Boundary Model for Truncated Vasculature”, *Annals of Biomedical Engineering*. 39(5): 1470-1481.

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1. Lin BA, Forouhar AS, **Pahlevan NM**, Anastassiou CA, Grayburn PA, Thomas JD, and M Gharib. (2010) "Color Doppler Jet Area Overestimates Regurgitant Volume when Multiple Jets are Present." *Journal of the American Society of Echocardiography*. 23(9):993-1000.

Book Chapter

1. **Pahlevan NM**. (2019) "Bernoulli's equation, significance, and limitations". *Principles of Heart Valve Engineering*. (pp. 381-388). Academic Press

Peer-Reviewed Conference Proceedings

Students and Research Associates (Postdocs, Fellows, Residents) underlined

14. Alavi R, Dai W, RA Kloner, and **Pahlevan NM**. (2020) "A Hybrid Artificial Intelligence-Intrinsic Frequency Method for Instantaneous Determination of Myocardial Infarct Size". *Circulation*, 142, A15899-A15899.
13. Mogadam E, Shavelle D, Liu J, Giesler G, Matthews RV, and **Pahlevan NM**. (2020) "Validation of A Non-invasive Approach for The Assessment of Left Ventricular-arterial Coupling Following Transcatheter Aortic Valve Replacement". *Circulation*, 142, A16138-A16138.
12. **Pahlevan NM**, Alavi R, Ramos M, Hindoyan A, and RV Matthews. (2020) "An Artificial Intelligence Derived Method For Instantaneous Detection Of Elevated Left Ventricular End Diastolic Pressure". *Circulation*, 142, A16334-A16334.
11. Gonser M, **Pahlevan NM**, and M Gharib. (2020). Optimisation Criterion for Pulsatile Timing: Observation in The Human Fetus. *Ultrasound in Obstetrics and Gynecology*, 56(S1), 197-198
10. Alavi R, Dai W, Kloner RA, and **Pahlevan NM**. (2019) "A Hybrid Artificial Intelligence-Intrinsic Frequency Method for Instantaneous Detection of Acute Myocardial Infarction". *Circulation*, 140(1), A12573-A12573.
9. Cooper LL, Rong J, **Pahlevan NM**, Rinderknecht DG, Benjamin EJ, Hamburg NM, Ramachandran VS, Larson MG, Gharib M, and Mitchell GF. (2019) "Intrinsic Frequencies of Carotid Pressure Waveforms Predict Cardiovascular Disease Events: The Framingham Heart Study". *Circulation*, 140(1), A14748-A14748.
8. Mogadam E, Giesler G, Matthews RV, **Pahlevan NM**. (2019) "A New Method for Instantaneous and Noninvasive Evaluation of Left Ventricular-Arterial Performance Following Transcatheter Aortic Valve Replacement". *Circulation*, 140(1), A15284-A15284.
7. **Pahlevan NM**, Dai W, and RA Kloner. (2018). "Noninvasive and Instantaneous Diagnostics of Acute Myocardial Infarction Using Intrinsic Frequency Method". *Circulation*, 138(1), A15311-A15311.
6. **Pahlevan NM**, Ramos M, and RV Matthews. (2018). "A Systems Approach for Noninvasive and Instantaneous Measurement of Left Ventricular End Diastolic Pressure Using Smartphone". *Circulation*, 138(1), A16274-A16274.
5. **Pahlevan NM**. (2018). "MRI-based Measures of Left Ventricle Contractility and Intrinsic Frequency". *Proceedings of 40th Annual International Conference of the IEEE Engineering in Medicine and Biology Society*.

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4. Razavi, M. and **NM Pahlevan**. (2017) "Wave Condition Number Is Useful in Predicting Risk for Coronary Heart Disease from Framingham Heart Study Data". *Circulation*. 136: A19399-A19399.
3. **Pahlevan NM**, Rinderknecht DG, Tavallali P, Razavi, M., Tran TT, Fong M, Kloner RA, Csete M, and M Gharib. (2016) "A New Noninvasive iPhone Application to Monitor Left Ventricle Ejection Fraction in Heart Failure Patients". *Circulation*. 134: A17227
2. **Pahlevan NM**, Petrasek D, Rinderknecht DG, Tavallali P, and M Gharib . (2014). "Calculating Pulse Wave Velocity from a Single Pressure Waveform Using the Intrinsic Frequency Method". *Hypertension*. 64.Suppl 1: A355-A355
1. **Pahlevan NM**, and M Gharib. (2010) " Pulse Pressure as a Single Index May not Represent the Level of Left Ventricle Work Load: Influence of Aortic Wave Dynamics". *Hypertension*. 56(5): E79-E79.

Honors and Awards

- *American Heart Association (AHA) Career Development Award*, 2020
- *American Heart Association (AHA) Postdoctoral Fellowship*, 2014
- *James Boswell Postdoctoral Fellowship Award* (Huntington Medical Research Institute-Caltech), 2014
- *The Hans G. Hornung Prize* (best PhD thesis defense presentation award), GALCIT, California Institute of Technology, 2013
- *American Heart Association (AHA) Predoctoral Fellowship*, 2012
- *Travel stipend award* for the 7th Hypertension Summer School AHA, 2010
- *Distinguished Graduate Student of the Year*, Mechanical Engineering Department, California State University Northridge, 2007
- *Boeing Annual Scholarship Award*, 2006
- *Certificate of Recognition "Master Tutor: A Guide for More Effecting Tutoring Program"*, College of Engineering and Computer Science, California State University Northridge, 2006

Ongoing Research Support

American Heart Association Career Development Award Pahlevan (PI) 1/01/2021-12/31/2023
A System Fluid Dynamics Approach for Development of Noninvasive Diagnostics of Acute and Chronic Cardiovascular Diseases
Role: PI

NIH High Priority, Short-Term Project Award (R56) King and Pahlevan (PIs) 9/15/2020-8/31/2021
Hemodynamic Mechanisms Linking Aortic Arch Stiffness with Brain Insult in Older Adults
Role: PI

Air Force Research Laboratory Gilpin and Pahlevan (PIs) 8/05/2020-9/30/2021
Womersley Flowmeter: Analysis Development and Experimental Validation

Avicena LLC Sponsored Research Pahlevan (PI) 8/01/2019-7/31/2021
Exploring a Novel Non-Invasive Method to Measure The Cardiovascular System's Performance
Role: PI

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Completed Research Support

USC Department of Surgery <i>Development of circulatory assist device for Fontan patients</i> Role: PI	Pahlevan (PI)	8/15/18-12/31/19
Atlantic Pediatric Device Consortium RG219-G6 <i>A noninvasive and inexpensive device for Hemodynamic Monitoring of Pediatric</i> Role: PI	Pahlevan (PI)	3/1/17-8/31/18
James Boswell Fellowship Award (HMRI) <i>Early, Non-Invasive Diagnosis of Heart Failure Using Intrinsic Frequency of Hemodynamic Waveforms and Cardiovascular Magnetic Resonance (CVMR).</i> Role: PI	Pahlevan (PI)	5/1/14-12/31/16
American Heart Association 14POST20380880 <i>Intrinsic Frequencies of Cardiovascular System: A Novel Noninvasive and Economical Diagnostic Method.</i> Role: PI	Pahlevan (PI)	6/1/13-6/1/14
American Heart Association 12PRE9610015 <i>Effect of Aortic Wave Dynamics on the State of Congestive Heart Failure.</i> Role: PI	Pahlevan (PI)	1/1/12-12/31/12

Issued Patents (US)

4. **Pahlevan NM**, Tavallali P, Rinderknecht DG, and M Gharib. "Intrinsic frequency analysis for left ventricle ejection fraction or stroke volume determination" (US9480406B2). (*licensed to industry*)
3. **Pahlevan NM** and M. Gharib. "Noninvasive Systems for Blood Pressure Measurement in Arteries" (US9622666 B2) (*licensed to industry*)
2. **Pahlevan NM**, Tavallali P, Hou TY, and M Gharib. "Intrinsic Frequency Hemodynamic Waveform Analysis" (US9026193B2). (*licensed to industry*)
1. Gharib M and **Pahlevan NM**. "Correction and Optimization of Wave Reflection in Blood Vessels". (US9125655B2)

Issued Patents (Internationals)

3. **Pahlevan NM**, Tavallali P, Rinderknecht DG, and Gharib M. "Intrinsic frequency analysis for left ventricle ejection fraction or stroke volume determination". *China* (CN105764412B), *European Patent Office* (EP3057498B1),
2. **Pahlevan NM**, Tavallali P, Hou TY, and Gharib M. "Intrinsic Frequency Hemodynamic Waveform Analysis". *Singapore* (SG11201403291VA), *Mexico* (MX354979B), *Japan* (JP6162143B2),
1. Gharib M and **Pahlevan NM**. "Noninvasive systems for aortic aneurysm evaluation". *China* (CN104619244B)

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Conference Proceedings

Presenter underlined

24. Alavi R, Dai W, RA Kloner, and **Pahlevan NM**. (2020) “A Hybrid Artificial Intelligence-Intrinsic Frequency Method for Instantaneous Determination of Myocardial Infarct Size”. *American Heart Association's Scientific Sessions*, Virtual, November 2020
23. Mogadam E, Shavelle D, Liu J, Giesler G, Matthews RV, **Pahlevan NM**. (2020) “Validation Of A Non-invasive Approach For The Assessment of Left Ventricular-arterial Coupling Following Transcatheter Aortic Valve Replacement”. *American Heart Association's Scientific Sessions*, Virtual, November 2020
22. **Pahlevan NM**, Alavi R, Ramos M, Hindoyan A, and RV Matthews. (2020) “An Artificial Intelligence Derived Method For Instantaneous Detection Of Elevated Left Ventricular End Diastolic Pressure”. *American Heart Association's Scientific Sessions*, Virtual, November 2020
21. Alavi R, Dai W, Kloner RA, and **Pahlevan NM**. (2019) “A Hybrid Artificial Intelligence-Intrinsic Frequency Method for Instantaneous Detection of Acute Myocardial Infarction”. *American Heart Association's Scientific Sessions*, Philadelphia, Pennsylvania, November 2019.
20. Cooper LL, Rong J, **Pahlevan NM**, Rinderknecht DG, Benjamin EJ, Hamburg NM, Ramachandran VS, Larson MG, Gharib M, and Mitchell GF. (2019) “Intrinsic Frequencies of Carotid Pressure Waveforms Predict Cardiovascular Disease Events: The Framingham Heart Study”. *American Heart Association's Scientific Sessions*, Philadelphia, Pennsylvania, November 2019.
19. Mogadam E, Giesler G, Matthews RV, **Pahlevan NM**. (2019) “A New Method for Instantaneous and Noninvasive Evaluation of Left Ventricular-Arterial Performance Following Transcatheter Aortic Valve Replacement”. *American Heart Association's Scientific Sessions*, Philadelphia, Pennsylvania, November 2019.
18. Wei H, Herrington C, Cleveland J, Starnes V, & **Pahlevan NM**. (2019) “Artificial Right Atrium Design for Univentricular Heart Patients”. *American Physical Society-Division of Fluid Dynamics (APS-DFD), 72nd Annual Meeting, Seattle, WA*
17. Aghilinejad A, Amlani F, King K, & **Pahlevan NM**. (2019) “Optimum heart rate for brain-heart hemodynamic coupling and its clinical relevancy for neurodegenerative diseases”. *American Physical Society-Division of Fluid Dynamics (APS-DFD), 72nd Annual Meeting, Seattle, WA*
16. **Pahlevan NM**, Ramos M, and Matthews RV. (2019) “Cardiac Triangle Mapping: A Novel Systems Approach for Noninvasive Evaluation of Left Ventricular End Diastolic Pressure”. *American Physical Society-Division of Fluid Dynamics (APS-DFD), 72nd Annual Meeting, Seattle, WA*
15. **Pahlevan NM**, Dai W, and RA Kloner. (2018). “Noninvasive and Instantaneous Diagnostics of Acute Myocardial Infarction Using Intrinsic Frequency Method”. *American Heart Association's Scientific Sessions*, Chicago, Illinois, November 2018
14. **Pahlevan NM**, Ramos M, and RV Matthews. (2018). “A Systems Approach for Noninvasive and Instantaneous Measurement of Left Ventricular End Diastolic Pressure Using Smartphone”. *American Heart Association's Scientific Sessions*. Chicago, Illinois, November 2018

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13. Razavi, M. and **NM Pahlevan.** (2017) “Wave Condition Number Is Useful in Predicting Risk for Coronary Heart Disease from Framingham Heart Study Data”. *American Heart Association's Scientific Sessions*, Anaheim CA, November 2017.
12. **Pahlevan NM,** Rinderknecht DG, Tavallali P, Razavi, M., Tran TT, Fong M, Kloner RA, Csete M, and M Gharib. (2016) “A New Noninvasive iPhone Application to Monitor Left Ventricle Ejection Fraction in Heart Failure Patients” *American Heart Association's Scientific Sessions*, New Orleans LA, November 2016 (oral presentation)
11. **Pahlevan NM.** (2017) “Systolic Intrinsic Frequency and Various Measures of Left Ventricle Contractility”. *American Physical Society-Division of Fluid Dynamics (APS-DFD), 70th Annual Meeting, Denver, CO*
10. **Pahlevan NM,** Thao TT, Tavallali P, Rinderknecht DG, Csete M, and Gharib M. (2015) “New intrinsic frequency measures of cardiac function vs. cardiac MRI as a gold standard”. *ISMRM 23rd Annual Meeting & Exhibition, 30 May - 05 June 2015, Toronto, Ontario, Canada.*
9. **Pahlevan NM,** Rinderknecht DG, Tavallali P, Petrasek D, Matthews R, and Gharib M. (2014) “Intrinsic Frequency Method for Noninvasive Diagnosis of Left Ventricular Systolic Dysfunction”. *American Physical Society-Division of Fluid Dynamics (APS-DFD), 67th Annual Meeting, San Francisco, CA*
8. **Pahlevan NM** and Gharib M. (2012) “Human Aorta Is a Passive Pump”, *American Physical Society-Division of Fluid Dynamics (APS-DFD), 65th Annual Meeting, San Diego, CA*
7. **Pahlevan NM,** Tavallali P, Hou TY, and M Gharib. (2012) “A New Index for Quantification of Left Ventricle-Aorta Coupling”. *Biomedical Engineering Society 2012 Annual Meeting, Atlanta, GA*
6. **Pahlevan NM** and Gharib M. (2011) “Optimum Heart Rate to Minimize Pulsatile External Cardiac Power”. *American Physical Society-Division of Fluid Dynamics (APS-DFD), 64th Annual Meeting, Baltimore, MD*
5. Falahatpisheh A, Dueitt B, **Pahlevan NM,** and Kheradvar A. (2011) “3D Characterization of Transmitral Vortex using Defocusing Digital Particle Image Velocimetry”. *American Physical Society-Division of Fluid Dynamics (APS-DFD), 64th Annual Meeting, Baltimore, MD*
4. **Pahlevan NM** and Gharib M. (2010) “Aortic Wave Dynamics and its influence on Left Ventricular Workload”. *American Physical Society-Division of Fluid Dynamics (APS-DFD), 63rd Annual Meeting, Long Beach, CA*
3. **Pahlevan NM** and Gharib M. (2010) “Effects of Aortic Wave Dynamics on Left Ventricular Power Requirement” *Biomedical Engineering Society 2010 Annual Meeting, Austin, TX*
2. Lin BA, Forouhar AS, **Pahlevan NM,** Anastassiou CA, Grayburn PA, Thomas JD, and Gharib M. (2010) “Color Doppler jet area overestimates volume when multiple jets are present” *American Society of Echocardiography, 21th Annual Scientific Session , June 2010, San Diego, CA*
1. **Pahlevan NM** and Gharib M. (2009) “Effect of Aortic Compliance on Left Ventricular Power Requirement”, *American Physical Society-Division of Fluid Dynamics (APS-DFD), 62nd Annual Meeting, Minneapolis, MN*

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Professional Services**Editorial**

2020-present: Editorial Board: *Frontiers in Bioengineering and Biotechnology* (IF=3.6)

2020-present: Editorial Board: *International Journal of Environmental Research and Public Health* (IF=2.8)

Journal ReviewerInterdisciplinary Journals:

1. *Journal of Biomechanics*
2. *Annals of Biomedical Engineering*
3. *Philosophical Transactions of the Royal Society B*
4. *Journal of the Royal Society Interface*
5. *Frontiers in Bioengineering and Biotechnology*
6. *Physiological Measurement*
7. *Journal of Biomechanical Engineering*
8. *PLoS ONE*
9. *Computers in Biology and Medicine*
10. *Biomedical Signal Processing and Control*

Engineering Journals:

11. *Physics of Fluids*
12. *Fluids*
13. *European Journal of Mechanics-B/Fluids*
14. *Mechanics Research Communications*

Clinical Journals:

15. *Journal of Magnetic Resonance Imaging*
16. *Journal of Clinical Medicine*