

PROF. ÇETİN YILMAZ

PERSONAL INFORMATION

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EDUCATION

Ph.D. Mechanical Engineering, University of Michigan, Ann Arbor, 2005

M.S. Mathematics, University of Michigan, Ann Arbor, 2002

M.S. Mechanical Engineering, University of Michigan, Ann Arbor, 2001

B.S. Mechanical Engineering, Boğaziçi University, İstanbul, 2000

PROFESSIONAL EXPERIENCE

Oct 2019 – Present	Professor Boğaziçi University Department of Mechanical Engineering
Oct 2013 – Oct 2019	Associate Professor Boğaziçi University Department of Mechanical Engineering
Sep 2007 – Oct 2013	Assistant Professor Boğaziçi University Department of Mechanical Engineering
Feb 2005 – Sep 2007	Post-doctoral Research Fellow University of Michigan Department of Mechanical Engineering

RESEARCH INTERESTS

Multi-body dynamics

Vibrations and acoustics

Vibration isolation systems

Phononic band gap structures

Elastic metamaterials

Passive anti-resonance generation methods

Design of displacement amplifiers and motion converters

PUBLICATIONS

Journal Publications:

1. B. Acar, S.N. Otlu, Z.G. Tetik, C. Yilmaz, Scaling Up 3D elastic metamaterials with ultrawide band gaps: A modular approach with weight compensation, *Journal of Sound and Vibration*, vol. 626, 119641, 2026. (DOI: 10.1016/j.jsv.2026.119641)
2. O. Yuksel, C. Yilmaz, Efficient topology optimization for maximizing fundamental frequency with design-dependent inertial loads, *Engineering Computations*, vol. 42, no. 9, pp. 3194-3214, 2025. (DOI: 10.1108/EC-03-2025-0278)
3. M.U. Demir, C. Yilmaz, Realization of a wideband three-axis horizontal vibration isolator with adjustable stiffness and damping, *Journal of Sound and Vibration*, vol. 600, 118876, 2025. (DOI: 10.1016/j.jsv.2024.118876)
4. S.N. Otlu, B. Acar, Z.G. Tetik, C. Yilmaz, Three-dimensional ultra-wide elastic metamaterial with inertial amplification mechanisms having optimized flexure hinges, *International Journal of Solids and Structures*, vol. 282, 112453, 2023. (DOI: 10.1016/j.ijsolstr.2023.112453)
5. K. Kocak, C. Yilmaz, Design of a compliant lever-type passive vibration isolator with quasi-zero-stiffness mechanism, *Journal of Sound and Vibration*, vol. 558, 117758, 2023. (DOI: 10.1016/j.jsv.2023.117758)
6. A.A. Kulaksizoglu, C. Yalcin, C. Yilmaz, Analytical and experimental investigation of a motion amplified rotational friction damper, *Engineering Structures*, vol. 288, 116184, 2023. (DOI: 10.1016/j.engstruct.2023.116184)
7. A.A. Kulaksizoglu, C. Yilmaz, C. Yalcin, Experimental and numerical study of a motion amplification mechanism to enhance the seismic dissipation capacity of precast, post-tensioned concrete rocking systems, *PCI Journal*, vol. 69, no. 6, pp. 24-45, 2023. (DOI: 10.15554/pcij68.6-02)

8. M.U. Demir, C. Yilmaz, A three-axis modular horizontal vibration isolation system with adjustable stiffness: design, analysis and experimental validation, *Journal of Sound and Vibration*, vol. 541, 117351, 2022. (DOI: 10.1016/j.jsv.2022.117351)
9. M.U. Demir, C. Yilmaz, Analysis and design of an adjustable stiffness three-axis horizontal vibration isolator using elastic columns and a string in tension, *Journal of Sound and Vibration*, vol. 523, 116736, 2022. (DOI: 10.1016/j.jsv.2021.116736)
10. O. Ozyar, C. Yilmaz, A self-tuning adaptive-passive lever-type vibration isolation system, *Journal of Sound and Vibration*, vol. 505, 116159, 2021. (DOI: 10.1016/j.jsv.2021.116159)
11. O. Yuksel, C. Yilmaz, Realization of an ultrawide stop band in a 2-D elastic metamaterial with topologically optimized inertial amplification mechanisms, *International Journal of Solids and Structures*, vol. 203, pp. 138-150, 2020. (DOI: 10.1016/j.ijsolstr.2020.07.018)
12. M. K. Saleem, C. Yilmaz, C. Basdogan, Tactile Perception of Virtual Textures Displayed by Friction Modulation via Ultrasonic Actuation, *IEEE Transactions on Haptics*, vol. 13, no. 2, pp. 368-379, 2020. (DOI: 10.1109/TOH.2019.2949411)
13. M. U. Ozcan, C. Yilmaz, F. O. Sonmez, Visco-Hyperelastic Material Modeling Using Nested Linkage Mechanisms, *International Journal of Solids and Structures*, vol. 193-194, pp. 393-404, 2020. (DOI: 10.1016/j.ijsolstr.2020.02.035)
14. A. Oktav, V. Gavvani, G. Anlas, C. Yilmaz, Reducing force transmission through exhaust mounts of a vehicle, *Proc. IMechE, Part D: Journal of Automobile Engineering*, vol. 233, no. 11, pp. 2809–2819, 2019. (DOI: 10.1177/0954407018807321)
15. A. H. Orta, C. Yilmaz, Inertial amplification induced phononic band gaps generated by a compliant axial to rotary motion conversion mechanism, *Journal of Sound and Vibration*, vol. 439, pp. 329-343, 2019. (DOI: 10.1016/j.jsv.2018.10.014)
16. A. Oktav, C. Yilmaz, G. Anlas, Improvement of low frequency booming problem in automobiles using tuned mass damper, *Journal of the Faculty of Engineering and Architecture of Gazi University*, vol. 34, no. 2, pp. 891-903, 2019. (DOI: 10.17341/gazimmfd.460488)
17. M. K. Saleem, C. Yilmaz, C. Basdogan, Psychophysical evaluation of change in friction on an ultrasonically-actuated touchscreen, *IEEE Transactions on Haptics*, vol. 11, no. 4, pp. 599-610, 2018. (DOI: 10.1109/TOH.2018.2830790)
18. S. Taniker, C. Yilmaz, Generating ultra wide vibration stop bands by a novel inertial amplification mechanism topology with flexure hinges, *International Journal of Solids and Structures*, vol. 106–107, pp. 129–138, 2017. (DOI: 10.1016/j.ijsolstr.2016.11.026)

19. E. Ozkaya, C. Yilmaz, Effect of eddy current damping on phononic band gaps generated by locally resonant periodic structures, *Journal of Sound and Vibration*, vol. 389, pp. 250–265, 2017. (DOI: 10.1016/j.jsv.2016.11.027)
20. A. Oktav, C. Yilmaz, G. Anlas, Transfer path analysis: current practice, trade-offs and consideration of damping, *Mechanical Systems and Signal Processing*, vol. 85, pp. 760-762, 2017. (DOI: 10.1016/j.ymssp.2016.09.013)
21. A. Oktav, C. Yilmaz, G. Anlas, The Helmholtz resonator effect of the trunk cavity in the acoustic response of a sedan, *SAE Technical Paper 2017-01-1842*, 2017. (DOI:10.4271/2017-01-1842)
22. A. Oktav, C. Yilmaz, G. Anlas, Determination of the damping characteristics of computational body-in-white models, *International Journal of Advances on Automotive and Technology*, vol. 1, no. 3, pp. 105-108, 2017. (DOI: 10.15659/ijaat.17.07.509)
23. A. Oktav, G. Anlas, C. Yilmaz, The effect of folding rear seat aperture in acoustic response of a sedan car, *Proc. IMechE, Part D: Journal of Automobile Engineering*, vol. 231, no. 2, pp. 253–266, 2017. (DOI: 10.1177/0954407016656290)
24. A. Oktav, G. Anlas, C. Yilmaz, Assessment of vehicle noise variability through structural transfer path analysis, *International Journal of Vehicle Design*, vol. 71, pp. 300-320, 2016. (DOI: 10.1504/IJVD.2016.078782)
25. S. Taniker, C. Yilmaz, Design, analysis and experimental investigation of three-dimensional structures with inertial amplification induced vibration stop bands, *International Journal of Solids and Structures*, vol. 72, pp. 88-97, 2015. (DOI: 10.1016/j.ijsolstr.2015.07.013)
26. O. Yuksel, C. Yilmaz, Shape optimization of phononic band gap structures incorporating inertial amplification mechanisms, *Journal of Sound and Vibration*, vol. 355, pp. 232-245, 2015. (DOI: 10.1016/j.jsv.2015.06.016)
27. O. Yuksel, C. Yilmaz, Active noise control in a duct with flow, *Journal of Dynamic Systems, Measurement, and Control*, vol. 136, no. 3, 031014, 2014. (DOI: 10.1115/1.4026410)
28. G. Acar, C. Yilmaz, Experimental and numerical evidence for the existence of wide and deep phononic gaps induced by inertial amplification in two-dimensional solid structures, *Journal of Sound and Vibration*, vol. 332, no. 24, pp. 6389–6404, 2013 (DOI: 10.1016/j.jsv.2013.06.022)
29. S. Taniker, C. Yilmaz, Phononic gaps induced by inertial amplification in BCC and FCC lattices, *Physics Letters A*, vol. 377, no. 31-33, pp. 1930–1936, 2013. (DOI: 10.1016/j.physleta.2013.05.022)
30. M. A. Acar, C. Yilmaz, Design of an adaptive - passive dynamic vibration absorber composed of a string - mass system equipped with negative stiffness tension adjusting mechanism, *Journal of Sound and Vibration*, vol. 332, no. 2, pp. 231-245, 2013 (DOI: 10.1016/j.jsv.2012.09.007)

31. C. Yilmaz, G. M. Hulbert, Theory of phononic gaps induced by inertial amplification in finite structures, *Physics Letters A*, vol. 374, no. 34, pp. 3576–3584, 2010. (DOI: 10.1016/j.physleta.2010.07.001)
32. C. Yilmaz, G. M. Hulbert, N. Kikuchi, Phononic band gaps induced by inertial amplification in periodic media, *Physical Review B*, vol. 76, 054309, 2007. (DOI: 10.1103/PhysRevB.76.054309)
33. C. Yilmaz, N. Kikuchi, Analysis and design of passive low-pass filter-type vibration isolators considering stiffness and mass limitations, *Journal of Sound and Vibration* vol. 293, no. 1-2, pp. 171-195, 2006. (DOI: 10.1016/j.jsv.2005.09.016)
34. C. Yilmaz, N. Kikuchi, Analysis and design of passive band-stop filter-type vibration isolators for low-frequency applications, *Journal of Sound and Vibration* vol. 291, no. 3-5, pp. 1004-1028, 2006. (DOI: 10.1016/j.jsv.2005.07.019)
35. C. Yilmaz, G. M. Hulbert, N. Kikuchi, Reducing tire-induced noise and vibration, *Tire Science and Technology* vol. 34, no. 2, pp. 135-147, 2006. (DOI: 10.2346/1.2204754)

Book Chapters:

1. C. Yilmaz, G.M. Hulbert, Dynamics of locally resonant and inertially amplified lattice materials. In: A.S. Phani, M.I. Hussein, editors. Dynamics of lattice materials. pp. 233-258, Wiley, 2017

Conference Proceedings:

1. C. Yilmaz, Inertially amplified elastic metamaterial with quasi-zero stiffness, 19th International Congress on Artificial Materials for Novel Wave Phenomena (Metamaterials 2025), Amsterdam, Netherlands, pp. 365-367, 2025.
2. C. Yilmaz, Static loading challenges of three-dimensional ultrawide phononic crystals and elastic metamaterials, META 2024: 14th International Conference on Metamaterials, Photonic Crystals and Plasmonics, Toyama, Japan, pp. 708-709, 2024.
3. C. Yilmaz, Ultrawide phononic band gaps, 6th International Conference on Phononic Crystals/Metamaterials, Phonon Transport and Topological Phononics, Manchester, UK, pp. 122-123, 2023.
4. O. Yuksel, C. Yilmaz, Design of a broadband elastic metamaterial via topologically optimized inertial amplification mechanisms, XI International

- Conference on Structural Dynamics (EURODYN 2020), Athens, Greece, pp. 4125-4138, 2020.
5. C. Yilmaz, Identifying different phononic band gap generation methods, 5th International Conference on Phononic Crystals/Metamaterials, Phonon Transport and Topological Phononics, Tucson, Arizona, USA, pp. 23-24, 2019.
 6. C. Yilmaz, Inertial amplification induced phononic band gaps in a chiral elastic metamaterial, 12th International Congress on Artificial Materials for Novel Wave Phenomena (Metamaterials 2018), Espoo, Finland, pp. 451-453, 2018.
 7. O. Yuksel, C. Yilmaz, Size and topology optimization of inertial amplification induced phononic band gap structures, Proceedings of the ASME 2017 International Mechanical Engineering Congress and Exposition (IMECE2017), Tampa, Florida, USA, pp. 1-10, 2017.
 8. M. K. Saleem, C. Yilmaz, C. Basdogan, Tactile Perception of Change in Friction on an Ultrasonically Actuated Glass Surface, IEEE World Haptics 2017, Munich, Germany, pp. 495-500, 2017.
 9. A. H. Orta, E. Samur, C. Yilmaz, Topologically optimised flexure hinge based XY stage, Proceedings of SPIE Vol. 10246, Smart Sensors, Actuators, and MEMS VIII, 1024607, Barcelona, Spain, 2017.
 10. C. Yilmaz, A. H. Orta, Wide band gaps at low frequencies using inerters, 4th International Conference on Phononic Crystals/Metamaterials, Phonon Transport/Coupling and Topological Phononics, Changsha, China, pp. 198-199, 2017.
 11. A. Oktav, C. Yilmaz, G. Anlas, Determination of the damping characteristics of computational body-in-white models, International Conference on Advances in Automotive Technologies, Istanbul, Turkey, pp. 17-20, 2016.
 12. E. Iseri, K. O. Ulgen, C. Yilmaz, S. Mutlu, Fabrication of steel displacement amplifiers integrated to microfluidic channels, IEEE MEMS 2016 Conference, Shanghai, China, pp. 493-496, 2016.
 13. S. Taniker, C. Yilmaz, Inertial amplification induced phononic band gaps in SC and BCC lattices, Proceedings of the ASME 2013 International Mechanical Engineering Congress and Exposition (IMECE2013), San Diego, California, USA, pp. 1-6, 2013.
 14. O. Yuksel, C. Yilmaz, Obtaining inertial amplification induced phononic gaps via structural optimization of a compliant mechanism, 11th International Conference on Vibration Problems (ICOVP 2013), Lisbon, Portugal, pp. 1-10, 2013.

15. M. A. Acar, C. Yilmaz, An adaptive tuned vibration absorber using a string-mass system with quasi-zero stiffness string tension adjustment mechanism, International Symposium of Mechanism and Machine Theory 2010 (AzC IFToMM 2010), Izmir, Turkey, pp. 349-354, 2010.
16. U. Goktepe, C. Yilmaz, An Investigation of booming noise on a light commercial vehicle, Proceedings of the 38th International Congress and Exposition on Noise Control Engineering (INTER-NOISE 2009), Ottawa, Canada, pp. 5063-5069, 2009.
17. G. M. Hulbert, E. Dede, C. Yilmaz, Z. D. Ma, N. Kikuchi, Analysis and design of materials and structures for attenuating vibration and acoustic response, Proceedings of the 6th International Conference on Computation of Shell and Spatial Structures, Ithaca, NY, USA, pp. 1-4, 2008.
18. G. Hulbert, N. Kikuchi, C. Yilmaz, E. Dede, Design and analysis of new classes of structural vibration control, Proceedings of the Conference on Computational Engineering and Science, vol. 11, no. 1, Tokyo, Japan, pp. 1-4, 2006.
19. G. Kiziltas, C. Yilmaz, J.L. Volakis, N. Kikuchi and J. Halloran, Design of metamaterial textures for microwave applications, IEEE Antennas and Propagation Society International Symposium (Digest) vol. 2, San Antonio, TX, USA, pp. 388-391, 2002.

Conference Proceedings (in Turkish):

1. U. Dinçer, G. Züngör, S.T. Aydemir, F.N.D. Çelik, E. Samur, Ç. Yılmaz, M. C. Akbostancı, Parkinson hastalığında bilek rijiditesinin doğal frekans yöntemi ile sayısal olarak değerlendirilmesi, 31. IEEE Sinyal İşleme ve İletişim Uygulamaları Kurultayı (SIU 2023), İstanbul, Türkiye, pp. 1-4, 2023.
2. O. Yuksel, C. Yilmaz, Esnek bağlantılı atalet artırımı mekanizmasının titreşim yalıtımı frekans aralığının topoloji eniyilemesi ile genişletilmesi, 18. Ulusal Makina Teorisi Sempozyumu (UMTS 2017), Trabzon, Türkiye, pp. 343-349, 2017.
3. E. Ozkaya, C. Yilmaz, Burgaç akımı ile sönümlenme yönteminin atalet artırımı mekanizmalarına uygulanması, 17. Ulusal Makina Teorisi Sempozyumu (UMTS 2015), İzmir, Türkiye, pp. 1-7, 2015.
4. A. Oktav, G. Anlas, C. Yilmaz, Assessment of vehicle noise variability due to engine mounts by means of structural transfer path analysis, 7. Otomotiv Teknolojileri Kongresi (OTEKON 2014), Bursa, Türkiye, pp. 1-7, 2014.
5. C. Yilmaz, G. Acar, Esnek bağlantılı köprü tipi mekanizmanın titreşim yalıtımına yönelik tasarımı ve analizi, 16. Ulusal Makina Teorisi Sempozyumu (UMTS 2013), Erzurum, Türkiye, pp. 86-92, 2013.

6. K. Kocak, C. Yılmaz, Esnek bağlantılı kaldıraç tipi mekanizma kullanarak pasif titreşim yalıtıcı tasarımı, *15. Ulusal Makina Teorisi Sempozyumu (UMTS 2011)*, Niğde, Türkiye, pp. 41-49, 2011.

Patents:

1. C. Yılmaz, M.C. Yalcin, A.A. Kulaksizoglu, Vibration energy damping mechanism, 2025, Publication No: WO2025144336A1.
2. C. Yılmaz, S. Haydin, System with variable stiffness, 2025, Publication No: US2025251031A1.
3. C. Yılmaz, M.U. Demir, Horizontal vibration isolation system with multi-tensioning wires having quasi-zero adjustable stiffness in three axes, 2025, Publication No: US2025060021A1
4. C. Yılmaz, M.U. Demir, 2023, "Vibration isolation system adjustable in three axes", Publication No: WO2023/043415A1.
5. U. Dincer, G. Zungor, E. Samur, C. Yılmaz, M.C. Akbostanci, S.T. Aydemir, F.N.D. Celik, 2021, "A mobile measurement system for evaluating rigidity", Application No: PCT/TR2021/051655.
6. C. Yılmaz, A.O. Ozyar, 2021, "A vibration isolation system", Publication No: US2023/083280A1, WO2021/167568A1.
7. C. Yılmaz, A.O. Ozyar, 2021, "A joint mechanism", Publication No: US2023/012864A1, WO2021/126127A1.
8. C. Yılmaz, A.A. Uslu, E. Tarakci, 2018, "A dynamic vibration damper and the washing machine using the same", Publication No: WO2018/202548A1.
9. A.A. Uslu, E. Tarakci, E. Tinar, C. Yılmaz, S. Yildirim, 2018, "A dynamic vibration damper and the washing machine using the same", Publication No: WO2018/202549A1.

Patents (in Turkish):

1. Ç. Yılmaz, M. Dilik, Kendini ayarlayan kendi gücünü sağlayan araç amortisörü, 2025, Türk Patent Başvuru No: 2025/018403
2. Ç. Yılmaz, B. Seyhan, 2024, "Kendini titreşim tahrik frekansına ayarlayabilen bir rezonatör", Türk Patent Başvuru No: 2024/010346
3. Ç. Yılmaz, A.A. Kulaksızoğlu, M.C. Yalçın, 2023, "Titreşim enerjisi sönmleme mekanizması", Türk Patent Başvuru No: 2023/018401

4. Ç. Yılmaz, S. Haydın, 2022, “Değişken direngenlikli bir sistem”, Türk Patent Başvuru No: 2022/005338.
5. Ç. Yılmaz, M.U. Demir, 2021, “Üç ekseninde sıfıra yakın ayarlanabilir direngenliğe sahip çok gerdirme telli yatay titreşim yalıtım sistemi”, Türk Patent No: 2021/021812B.
6. Ç. Yılmaz, M.U. Demir, 2021, “Üç ekseninde ayarlanabilir titreşim yalıtım sistemi”, Türk Patent No: 2021/014387B.
7. Ç. Yılmaz, C. Korkmaz, Ş.A. Subay, 2021, “A hermetic compressor with tuned mass damper”, Türk Patent Başvuru No: 2021/007820.
8. U. Dinçer, G. Züngör, E. Samur, Ç. Yılmaz, M.C. Akbostancı, S.T. Aydemir, F.N.D. Çelik, 2021, “Rijiditenin değerlendirilmesi için bir mobil ölçüm sistemi”, Türk Patent Başvuru No: 2021/022005.
9. U. Dinçer, G. Züngör, E. Samur, Ç. Yılmaz, M.C. Akbostancı, S.T. Aydemir, F.N.D. Çelik, 2020, “Rijiditenin değerlendirilmesi için mobil bir aparat sistemi”, Türk Patent Başvuru No: 2020/22818.
10. Ç. Yılmaz, A.O. Özyar, 2020, “Bir titreşim yalıtım sistemi”, Türk Patent No: 2020/02692B.
11. Ç. Yılmaz, A.O. Özyar, 2019, “Bir mafsal mekanizması”, Türk Patent No: 2019/20296A2.
12. A.A. Uslu, Ç. Yılmaz, E. Tarakcı, 2017, “Bir dinamik titreşim sönümleyici ve kullanıldığı çamaşır makinesi”, Türk Patent No: 2017/06654A2.
13. A.A. Uslu, E. Tarakcı, S. Yıldırım, E. Tınar, Ç. Yılmaz, 2017, “Bir dinamik titreşim sönümleyici ve kullanıldığı çamaşır makinesi”, Türk Patent No: 2017/06613A3.

RESEARCH PROJECTS

Boğaziçi University Research Grant (BAP):

17A06D2 – Design of a vibration isolator using topologically optimized inertial amplification mechanisms, July 2017 – November 2018 (Principal Investigator)

16A06P4 – Design of an inertial amplification mechanism that converts axial motion into rotary motion, April 2016 – September 2017 (Principal Investigator)

14A06P6 – Eddy current damping and vibration isolation in periodic structures, October 2014 – October 2015 (Principal Investigator)

09HA603P – Numerical and experimental analysis of phononic band gap structures, June 2009 – February 2011 (Principal Investigator)

TÜBİTAK (The Scientific and Technological Research Council of Turkey):

218M475 – Analysis and design of vibration isolation systems capable of operating at very large frequency ranges, March 2019 – March 2022 (Principal Investigator)

110M663 – Analysis and design of phononic band gap structures with inertial amplification for vibration isolation purposes, April 2011 – April 2014 (Career Project) (Principal Investigator)

107M240 – Attention based scene recognition, motion and coordination of mobile robots, June 2008 – June 2009 (Researcher)

SAN-TEZ (Ministry of Science, Industry and Technology):

00641.STZ.2010–2 – Investigation and improvement of low frequency sound and vibration characteristics of Renault Fluence vehicles, August 2011 – February 2013 (Researcher)

Industrial Projects:

NISSAN (JAPAN) – Design and analysis of a compact elastic metamaterial for vibration isolation of automobile seats, May 2024 – February 2026 (Principal Investigator)

ARÇELİK – Vibration analyses, dynamic modelling and design improvements of mini platform refrigerator compressors, October 2023 – April 2024 (Principal Investigator)

TEKSAN – Analysis, modelling and design of acoustic metamaterials to be used for noise reduction in electric generators, September 2023 – February 2024 (Principal Investigator)

NISSAN (JAPAN) – Development of a single occupant prototype vehicle with elastic metamaterial suspension, December 2022 – June 2023 (Principal Investigator)

ELEKTROTEKS – Vibration analyses, dynamic modelling and design improvement studies for CNC foam cutting machine, March 2022 – October 2022 (Principal Investigator)

ELEKTROTEKS – Design studies to reduce vibration level of multi-needle quilting machines, September 2020 – March 2021 (Principal Investigator)

NISSAN (JAPAN) – Design and analysis of compact elastic metamaterials for electric vehicle suspensions, July 2019 – March 2020 (Principal Investigator)

ARÇELİK – Analysis and design studies for compressor induced vibrations in refrigerators, April 2019 – October 2019 (Principal Investigator)

ARÇELİK – Development of low stiffness suspension mechanism for washing machines, August 2018 – November 2018 (Principal Investigator)

ARÇELİK – Development of vibration isolation system for refrigerator compressors, August 2018 – November 2018 (Principal Investigator)

TEKSAN – Industrial type acoustic muffler design and development of test methods, December 2017 – August 2018 (Principal Investigator)

ARÇELİK – Variable stiffness suspension mechanism design for washing machines, April 2017 – October 2017 (Principal Investigator)

ARÇELİK – Dynamic vibration absorber applications in washing machines, March 2016 – July 2016 (Principal Investigator)

OTOKAR – Suppressing noise and vibration problems in Euro 6 vehicles, June 2014 – October 2014 (Principal Investigator)

OYAK-RENAULT – Design optimization of sheet metal containers in the L38-B32 project, February 2008 – June 2008 (Principal Investigator)

OYAK-RENAULT – Measurement of individual paint layer thicknesses in L38-B32 vehicles in a single measurement in the paint shop, April 2008 – June 2008 (Principal Investigator)

TEACHING EXPERIENCE

University of Michigan, Department of Mechanical Engineering (Co-Instructor with Prof. Noboru Kikuchi):

ME501 Analytical Methods in Mechanics

Boğaziçi University, Department of Mechanical Engineering:

ME324 Machine Design I

ME424 Machine Design II

ME425 Mechanical Vibrations

ME426 Dynamics of Machinery

ME429 Mechanical and Thermal Design

ME492 Senior Project

ME579 Graduate Seminar
ME622 Advanced Vibrations
AUTO500 Engineering Mechanics
AUTO503 Noise and Vibrations

MS THESES SUPERVISED

Buğra Kerim Şahin, Adaptive vibratory system for efficient olive harvesting (On going)

Anas Siddique, Multi-stage self-powered adaptive-passive vibration isolator (On going)

Emirhan Ertem, Self-powered lever-type vibration isolator with a compliant self-tuning actuator mechanism (December 2025)

Mert Dilik, Self-tuning self-powered vehicle suspension (January 2025)

Muhammet Nazım Açııcı, Tensegrity structures with embedded inertial amplification mechanisms (January 2025)

Ahmet Alperen Çakmak, Design of a novel sound insulation structure incorporating quasi-zero stiffness and vacuum cavity (January 2024)

Ahmet Karakoyun, Optimization of two dimensional space-coiled resonator design for acoustic metamaterials (June 2023)

Zafer Gökay Tetik, Band structure calculation of 3D ultrawide elastic metamaterials with embedded inertial amplification mechanisms (December 2022)

Berkay Acar, Design and analysis of ultrawide elastic metamaterial for three-dimensional vibration isolation (July 2022)

Bedri Seyhan, Design of a self-adjusting and self-powered dynamic vibration absorber (July 2022)

Sedef Nisan Otlu, Design of a 3D periodic vibration isolation structure with inertial amplification mechanism (January 2022)

Sergen Haydın, Adjustable stiffness vibration isolation system (September 2021)

Mehmet Utku Demir, Analysis and design of a vibration isolation table having quasi-zero stiffness along multiple axes (February 2021)

Günay Züngör, Assessment of wrist rigidity in patients with Parkinson's disease: a new approach based on frequency analysis (Advisor: Assoc. Prof. Evren Samur, Co-Advisor: Prof. Çetin Yılmaz) (August 2020)

Uğur Dinçer, Quantitative assessment of wrist rigidity in Parkinson's disease by using built-in sensors of a smartphone (Advisor: Assoc. Prof. Evren Samur, Co-Advisor: Prof. Çetin Yılmaz) (August 2020)

Ahmet Onur Özyar, Design of a passive self-tuning lever-type vibration isolation system (May 2019)

Adil Han Orta, Design of vibration isolation systems that incorporate axial to rotary motion conversion mechanisms (July 2018)

Uğur Alican Alma, Providing active haptic feedback in two dimensions on a touch screen (Advisor: Assist. Prof. Evren Samur, Co-Advisor: Assoc. Prof. Çetin Yılmaz) (January 2017)

Efe Özkaya, Vibration isolation systems with eddy current damping (May 2016)

Gizem Dilber, Phononic band gaps in periodic structures with inertial amplification mechanisms (July 2012)

Osman Yüksel, Active noise control in a duct with flow (Advisor: Assist. Prof. Çetin Yılmaz, Co-advisor: Prof. Eşref Eşkinat) (January 2012)

Mustafa Ali Acar, Design of an adaptive - passive dynamic vibration absorber composed of a string - mass system equipped with negative stiffness tension adjusting mechanism (September 2011)

Kamil Koçak, Design of a compliant lever-type passive vibration isolator using quasi-zero-stiffness mechanism (September 2011)

Veysel Doğan, Tuned mass damper applications on slender structures to improve earthquake and wind response (January 2011)

PHD THESES SUPERVISED

Ahmet Ata Kulaksızoğlu, Analytical and experimental study of a motion amplification damper for improving energy dissipation capacity of precast post-tensioned structural systems (Advisor: Prof. Cem Yalçın, Co-advisor: Prof. Çetin Yılmaz) (January 2023)

Mateusz Szczesiak, Adaptive boundary control using backstepping for 1D variable length string-mass system under disturbances (Advisor: Prof. Günay Anlaş, Co-advisor: Prof. Çetin Yılmaz) (January 2022)

Mustafa Umut Özcan, Nonlinear viscoelastic material modeling using nested linkage mechanisms (Advisor: Prof. Çetin Yılmaz, Co-advisor: Prof. Fazıl Önder Sönmez) (January 2022)

Osman Yüksel, Shape and topology optimization of inertial amplification induced phononic band gap structures (January 2018)

Akın Oktav, Computational and experimental investigation of low frequency noise in passenger vehicles (Advisor: Prof. Günay Anlaş, Co-advisor: Assoc. Prof. Çetin Yılmaz) (April 2016)

Semih Taniker, Design and analysis of three-dimensional phononic band gap structures with embedded inertial amplification mechanisms (June 2015)

REVIEWER ACTIVITIES

Journal of Sound and Vibration, 2006 –

Journal of Mechanics of Materials and Structures, 2013 –

ASME International Mechanical Engineering Conference and Exhibition, 2013 –

Physics Letters A, 2014 –

Mechanical Systems and Signal Processing, 2014 –

International Journal of Solids and Structures, 2016 –

ASME Journal of Vibration and Acoustics, 2016 –

Proceedings of the Institution of Mechanical Engineers, Part C: Journal of Mechanical Engineering Science, 2016 –

Journal of Earthquake Engineering, 2017 –

European Journal of Mechanics - A/Solids, 2017 –

Shock and Vibration, 2018 –

Nonlinear Dynamics, 2018 –

Physical Review Applied, 2019 –

Journal of Vibration and Control, 2019 –

Journal of Applied Physics, 2020 –

International Journal of Mechanical Sciences, 2021 –

Additive Manufacturing, 2021 –

Physical Review Letters, 2021 –

Thin-Walled Structures, 2023 –

Swiss National Science Foundation, 2015 –

TÜBİTAK ARDEB, 2014 –

KOSGEB, 2010 –

TÜBİTAK TEYDEB, 2007 –

SCHOLARSHIPS, HONORS, AND AWARDS

Excellence in Research Award, Boğaziçi University Foundation, 2019
TUBITAK Project Performance Award, 2018
Outstanding Reviewer Award, Mechanical Systems and Signal Processing (Elsevier), 2018
Outstanding Reviewer Award, European Journal of Mechanics / A Solids (Elsevier), 2018
Outstanding Young Scientist Award (GEBIP), Turkish Academy of Sciences, 2017
Outstanding Reviewer Award, International Journal of Solids and Structures (Elsevier), 2017
Outstanding Reviewer Award, Journal of Sound and Vibration (Elsevier), 2015
Academic Incentive Award, Boğaziçi University Foundation, 2011, 2013-2016
TUBITAK Career Award, 2011
2nd Prize on the ADAMS Design Contest, 2001
Mechanical Engineering Departmental Fellowship, University of Michigan, 2000-2001
Graduation with High Honors, Boğaziçi University, 2000
Merit-based Scholarship, Boğaziçi University Foundation, 1995-1999

PROFESSIONAL SERVICE

Within Boğaziçi University:

Boğaziçi University, Research Infrastructure Coordination Commission Member (2025 –)
Boğaziçi University, Technology Transfer Office, Executive Board Member (2024 –)
Boğaziçi University, Research Policies Committee Member (2018 – 2024)
Boğaziçi University, Academic Incentive Award Committee Member (2016, 2019 – 2020)
Boğaziçi University, Protection of Natural Environment Commission Member (2018 – 2021)
Boğaziçi University, KOSGEB Evaluation and Decision Committee Member (2017)
Faculty of Engineering, Faculty Council Member (2009 – 2013; 2023 –)
Faculty of Engineering, Executive Board Member (2009 – 2012; 2016 – 2023)
Master's Program in Automotive Engineering, Steering Committee Member (2013 – 2024)

Master's Program in Automotive Engineering, Director (2024 –)

Department of Mechanical Engineering, Chair (2023 –)

Department of Mechanical Engineering, Vice-Chair (2010 – 2011; 2013 – 2023)

Department of Mechanical Engineering, ABET Coordinator (2013 – 2023)

Department of Mechanical Engineering, Advisor for the Minor Program (2012 –)

Department of Mechanical Engineering, PhD Qualifier Committee Member (2012 – 2024)

Department of Mechanical Engineering, Advisor for the Sophomores (2013 – 2016)

Department of Mechanical Engineering, Advisor for the Master's Students (2008 – 2011)

Outside Boğaziçi University:

Dudullu OSB Boğaziçi University Teknopark, Executive Board Member (2018 – 2024)

Tofaş Academy, Advisory Board Member (2014 – 2015)