Assoc. Prof. Dr. Umit Necmettin ARIBAS

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Department of Civil Engineering,
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PERSONAL INFORMATION

Birth date	**:**	…
Place of birth	**:**	…
Nationality	**:**	Turkish
Marital Status	**:**	Married
Driving Licence	**:**	…
Membership	**:**	…
Hobbies	**:**	Swimming, Poetry, Theater.
Cigarette	**:**	Non-Smoker

EDUCATION

		Date	Grade*
Ph.D.	ISTANBUL TECHNICAL UNIVERSITY Construction Engineering Programme **Advisor :** Mehmet Hakkı OMURTAG	2013 – 2019	3.45
M.Sc.	ISTANBUL TECHNICAL UNIVERSITY Construction Engineering Programme **Advisor :** Mehmet Hakkı OMURTAG	2010 – 2012	3.69
B.Sc.	ISTANBUL UNIVERSITY Civil Engineering **Advisor :** Namık Kemal ÖZTORUN	2006 – 2010	3.15
Highschool	HABIRE YAHSI HIGHSCHOOL Highschool English Preparation	2003 – 2006 2002 – 2003	4.60 5.00

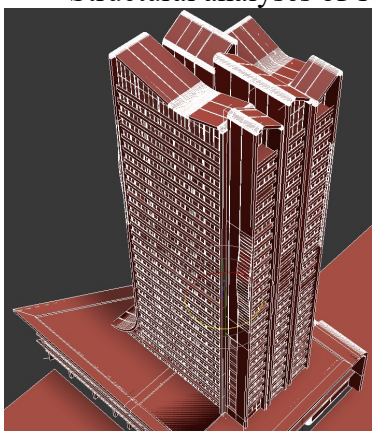
Grade* : over **4.00** for higher education and **5.00** for high school.

THESIS

- Static and Dynamic Analyses of Composite Helicoidal Rods with Mixed Finite Element Method (Ph.D.), 2019.
  - The static and dynamic analyses of orthotropic composite helicoidal Timoshenko rods including the warping effect via mixed FEM.
- Analysis of Dynamic Behavior of Viscoelastic Helicoidal Rods with Mixed Finite Element Method (*M.Sc. Thesis*), 2012.
  - The dynamic analysis of viscoelastic helicoidal Timoshenko rods using Laplace and modified Durbin Laplace transformations.
- Monolithic Reaction Wall System Design for Construction Department Laboratory of Istanbul University, in Turkish, (*B.Sc. Thesis*), 2010.
  - The design of monolithic concrete reaction wall system using SAP2000.

EMPLOYEMENT HISTORY

- **Associate Professor Doctor**
  Istanbul Medipol University – Beykoz, Turkey
  (01.04.2026 – Present)
- **Assistant Professor Doctor**
  Istanbul Medipol University – Beykoz, Turkey
  (01.10.2020 – 01.04.2026)
- **Assistant Professor Doctor**
  Istanbul Okan University – Tuzla, Turkey
  (18.02.2019 – 04.08.2020)
- **Research Assistant**
  Istanbul Technical University – Maslak, Turkey
  (25.04.2017 – 04.02.2019)
- **Static Project Engineer**
  Endurans Yapı Mühendisliği – Kadikoy, Turkey – Head Office
  (03.08.2015 – 18.12.2015)
  - Structural analyses of reinforced concrete and steel structures via ETABS and Sta4cad.
- **Static Project Engineer**
  Omega Konsept Proje – Fenerbahce, Turkey – Head Office
  (21.04.2014 – 14.07.2015)
  - Structural analyses of 40000m^2 apartment and commercial buildings and steel structures via ETABS.
  - Structural analyses of steel and reinforced concrete canopies, steel roof and facades via ETABS.
  - Structural analyses of 10 reinforced concrete apartments.




Steel Structure Facades of Buildings (click for other projects)

- **Static Project Engineer**
  Taşyapı – Acibadem, Turkey – Head Office
  (09.09.2013 – 11.04.2014)
  Via ETABS and SAP2000;
  - Analysis of Steel and Concrete Structural Parts of ERCAN AIRPORT
    (TS500, TS498, TS648, AISC 360-10, AISC 341-10, ASCE7-10)
  Via Revit2014;
  - Modelling Structural Parts



Structural Analysis of Ercan Airport (composed of reinforced concrete elements and steel profiles)

- **Static Project Engineer**
  Artyol Mühendislik, Kozyatagi, Turkey – Head Office
  (01.09.2012 – 01.06.2013)

  Via ETABS, SAP2000 and Sta4cad;

  - New Construction Projects;

    Gallery Buildings, Dorm Buildings, Villa and Housing Projects.

  - Urban Renewal Projects (Concrete, Steel, Load-Bearing Wall Construction),

    Perform Analysis, Linear Elastic Method

- Modern Mühendislik, Kozyatagi, Turkey – Head Office, 25 workdays
  (13.07.2009 – 14.08.2009)
- Housing development administration of Turkey, Urban Regeneration Project – Workside, 45 workdays (21.07.2008 – 19.09.2008)

PROGRAMMING

- YAY (Structural Analysis Assistant)

  The algorithm of YAY is formed via Visual Studio and FORTRAN. The advantage of this program is the computation of earthquake forces, earth pressure, story drifts, element capacities and reinforcements directly based on the outputs of ETABS for a building. Therefore, it reports the beforementioned results.

FOREIGN LANGUAGE

English – YOKDIL (85 over 100), August 2023

COMPUTER ABILITIES

- SAP2000 – Good
- STA4CAD – Good
- ETABS – Good
- SAFE – Good
- REVIT STRUCTURES – Moderate
- AUTOCAD – Moderate
- ANSYS – Good
- SOLIDWORKS – Good
- MICROSOFT OFFICE – Good
- FORTRAN – Good
- VISUAL STUDIO – Good
- MATLAB – Good
- MATHEMATICA – Good
- GRAPHER – Good
- COREL DESIGNER – Good
- ABAQUS – Moderate

AWARDS

- "Finite element analysis of viscoelastic conical helixes for various parameters" proceeding in 17. National Mechanics Congress awarded third prize in the field of "**Best Proceedings**", ITU (2011).

PROJECTS

- **TUBITAK 2209A (2022/2nd Period, No:2584):** The Influences of FGM Constituents and Geometry of Advanced Composites on the Warping Included Stress Distribution (in Turkish), 2023–2024.
- **TUBITAK 2209A (2022/2nd Period, No:2583):** The Influence of Damping on The Transient Response of Advanced Composite Beams (in Turkish), 2023–2024.
- **TUBITAK 2209A (2021/1st Period, No:532):** The Effective Performance Parameters of Helical Dampers under Dynamic Loads (in Turkish), 2021–2022.
- **TUBITAK 2209A (2021/1st Period, No:529):** The Investigation of The Static Responses and Natural Frequencies of Advanced Composite Beams Considering The Variation of Shear Angle (in Turkish), 2021–2022.
- **TUBITAK 2209A (2020/2nd Period, No:820):** The Static and Dynamic Analyses of FGM Exact Planar Curved Beams (in Turkish), 2021–2022
- **KLU Scientific Research Office (205):** The Dynamic Analysis of Two and Three Dimensional Rotationally Symmetric Functionally Graded Timoshenko Bars (in Turkish), 2020–2022.
- **TUBITAK 1001 (111M308):** Analysis of Non-Cylindrical Viscoelastic Helices with Variable Cross-sections via Mixed FE Method (in Turkish), 2011–2014.
- **ITU Scientific Research Office (40739):** The Forced Vibration Analysis of 2D and 3D Laminated Composite Beams Resting on the Three Parameter Orthotropic Pasternak Foundation (in Turkish), 2017–2018.
- **ITU Scientific Research Office (3555):** Finite Element Analysis for the Viscoelastic Behavior of Cylindrical and Conical Springs (in Turkish), 2010–2012.

INTERNATIONAL JOURNAL PUBLICATIONS

- **Aribas U.N.**, Koc E., Kahraman E., Omurtag M.H. (2026). A robust geometrically nonlinear mixed finite element accounting for 3D strains in orthotropic composite circular, elliptical and super-elliptical arches. *Finite Elem. Anal. Des.*, **260**(29), 104598, DOI: 10.1016/j.finel.2026.104598.
- **Aribas U.N.**, Ermis M., Koc E., Omurtag M.H. (2026) Rapidly convergent mixed fem for geometrically nonlinear analysis of laminated composite beams integrating 3d strain effects. Int J Mech Mater Des, **22**(1), 58. DOI: 10.1007/s10999-026-09878-5
- Ermiş M., **Aribas U.N.**, Madenci E., Kahraman E., Omurtag M.H. (2025) Static and dynamic analyses of two-phase/multi-phase carbon nanotube-reinforced functionally graded composite beams via warping-included mixed finite element method. *Front. Struct. Civ. Eng.*, **19**, 980-1004. https://doi.org/10.1007/s11709-025-1183-6.
- **Aribas U.N.** (2024) Bi-directional higher-order shear deformable mixed finite element formulation including couple effects for stresses of functionally graded curved 3d beams. *J Braz Soc Mech Sci Eng,* **46**, 641. https://doi.org/10.1007/s40430-024-05211-3.
- **Aribas U.N.**, Atalay M., Omurtag M.H. (2024). Warping included mixed finite elements for bending and stresses of functionally graded exact curved beams. *Mechanics of Advanced Materials and Structures*, **31**(20), 5040-5056. https://doi.org/10.1080/15376494.2023.2211075.
- **Aribas, U.N.**, Aydin, M., Atalay, M., Omurtag M.H. (2023) Cross-sectional warping and precision of the first-order shear deformation theory for vibrations of transversely functionally graded curved beams. *Appl. Math. Mech.-Engl. Ed.* **44**, 2109–2138, https://doi.org/10.1007/s10483-023-3065-6.
- **Aribas U.N.**, Ermiş M., Kutlu A., Eratlı N., Omurtag M.H. (2022). Forced vibration analysis of composite-geometrically exact elliptical cone helices via mixed FEM. *Mechanics of Advanced Materials and Structures*, **29**(10), 1456-1474. https://doi.org/10.1080/15376494.2020.1824048.
- Çömez İ., **Aribas U.N.**, Kutlu A., Omurtag M.H. (2022). Two-dimensional solution of functionally graded piezoelectric-layered beams. *J Braz Soc Mech Sci Eng*, **44**(3), 101, https://doi.org/10.1007/s40430-022-03414-0.
- **Aribas U.N.**, Ermis M., Omurtag M.H. (2021). The Static and Stress Analyses of Axially Functionally Graded Exact Super Elliptical Beams via Mixed FEM. *Archive of Applied Mechanics*, **91**, 4783-4796. https://doi.org/10.1007/s00419-021-02033-w.
- Çömez İ., **Aribas U.N.**, Kutlu A., Omurtag M.H. (2021). An Exact Elasticity Solution for Monoclinic Functionally Graded Beams. *Arab J Sci Eng,* **46**, 5135-5155. https://doi.org/10.1007/s13369-021-05434-9
- **Aribas U.N.**, Ermiş M., Kutlu A., Eratlı N., Omurtag M.H. (2019). Elastically Damped Transient Response of Axially FG Straight Beams, *International Journal of Theoretical and Applied Mechanics*, **4**, 19-25. https://www.iaras.org/iaras/home/caijtam/elastically-damped-transient-response-of-axially-fg-straight-beams.
- **Aribas U.N.**, Ermiş M., Eratlı N., Omurtag M.H. (2019). The Static And Dynamic Analyses of Warping Included Composite Exact Conical Helix By Mixed Fem, *Composites Part B*, **160**, 285-297. doi:10.1016/j.compositesb.2018.10.018.
- **Aribas U.N.**, Ermiş M., Kutlu A., Eratlı N., Omurtag M.H. (2018). Forced Vibration Analysis of Warping Considered Curved Composite Beams Resting on Viscoelastic

Foundation, *Gazi University Journal of Science*, **31**(4), 1093-1105. http://dergipark.gov.tr/gujs/issue/40684/388317.

NATIONAL JOURNAL PUBLICATIONS

- Ermis M., Aydogan G., Kir O., **Aribas U.N.**, Omurtag M.H. (2022). The static and free vibration analyses of axially functionally graded elliptical beams via mixed FEM, *Journal of Structural Engineering & Applied Mechanics*, 5(1), 22-39. https://doi.org/10.31462/jseam.2022.01022039.
- **Aribas U.N.**, Omurtag M.H. (2019). The static response of sandwich exact conical helices via MFEM, *Journal of Structural Engineering & Applied Mechanics,* 2(4), 153-163. doi:10.31462/jseam.2019.04153163.
- **Aribas U.N.** (2019). The Analysis of Normal and Shear Stresses on Composite Curved Beams Considering the Cross-Sectional Warping via Mixed Finite Element Formulation (in Turkish), *Niğde Ömer Halisdemir Üniversitesi Mühendislik Bilimleri Dergisi*, 8(3), 16-29. doi:10.28948/ngumuh.619591.

INTERNATIONAL REFEREED CONFERENCE PUBLICATIONS

- Koc E., **Aribas U.N.**, Ermis M., Omurtag M.H., "Geometrically Nonlinear Analysis of Composite Beams via Mixed FEM", 4th International Civil Engineering and Architecture Congress (ICEARC'25), Trabzon, Turkey, 17-19 May 2025.
- Guner O., Ermis M., **Aribas U.N.**, Omurtag M.H., "Free Vibration Analysis of FG-GPLRC Straight Beams via Warping-included Mixed FEM", 4th International Civil Engineering and Architecture Congress (ICEARC'25), Trabzon, Turkey, 17-19 May 2025.
- Ermis M., **Aribas U.N.**, Eratli N., Omurtag M.H., "Static Analysis of Functionally Graded Porous Straight Beams via Mixed FEM", 3rd International Civil Engineering and Architecture Congress (ICEARC'23), Trabzon, Turkey, 12-14 October 2023.
- Ermis M., **Aribas U.N.**, Madenci E., Kahraman E., Omurtag M.H., "Vibration Analysis of three phase CNT/polymer/fiber functionally graded beams via warping included mixed FEM", 8th International Conference on Mechanics of Composites (MECHCOMP8), Porto, Portugal, 27 – 30 June 2023
- **Aribas U.N.**, Atalay M., Omurtag M.H., "The static responses and stresses of functionally graded exact curved beams", 7th International Conference on Mechanics of Composites (MECHCOMP7), Porto, Portugal, 1-3 September 2021.
- Ermis M., **Aribas U.N.**, Kutlu A., Eratli N., Omurtag M.H., "Forced Vibration Analysis of Axially FG Straight Beams by Mixed FEM", IV. Eurasian Conference on Civil and Environmental Engineering (IV. ECOCEE), Istanbul, Turkey, 17-18 June 2019.
- **Aribas U.N.**, Ermis M., Kutlu A., Eratlı N., Omurtag M.H., "Elastically Damped Transient Response of Axially FG Straight Beams", 12th International Conference on Finite Differences, Finite Elements, Finite Volumes, Boundary Elements (F-AND-B 19), Rome, Italy, 24-28 May 2019.
- Ermis M., **Aribas U.N.**, Kutlu A., Eratli N., Omurtag M.H., "Free Vibration Analysis of Axially FG Straight Beams by Mixed FEM", International Civil Engineering and Architecture Conference 2019 (ICEARC'19), Trabzon, Turkey, 17-20 April 2019.

- **Aribas U.N.**, Ermis M., Kutlu A., Eratli N., Omurtag M.H., "The Warping Effect on the Structural Response of Sandwich Exact Helical Rods", International Civil Engineering and Architecture Conference 2019 (ICEARC'19), Trabzon, Turkey, 17-20 April 2019.
- Ermis M., Aribas U.N., Eratli N., Omurtag M.H., "Forced Vibration Analysis of a Planar Elliptical Beam", 16th European Conference on Earthquake Engineering (16ECEE), Thessaloniki, Greece, 18-21 June 2018.
- Ermis M., **Aribas U.N.**, Eratli N., Omurtag M.H., "Free Vibration Analysis of a Planar Elliptical Beam", 16th European Conference on Earthquake Engineering (16ECEE), Thessaloniki, Greece, 18-21 June 2018. (Poster).
- **Aribas U.N.**, Yılmaz M., Eratli N., Omurtag M.H., "Static and Free Vibration Analysis of Planar Curved Composite Beams on Elastic Foundation", 8th International Conference on Theoretical and Applied Mechanics (TAM '17), Brasov, Romania, 27-29 June 2017. *International Journal of Theoretical and Applied Mechanics*, **2**, 35-42.
- Ermis M., **Aribas U.N.**, Eratli N., Omurtag M.H., "Static and Free Vibration Analysis of Composite Straight Beams on the Pasternak Foundation", 10th International Conference on Finite Differences, Finite Elements, Finite Volumes, Boundary Elements (F-and-B '17), Barcelona, Spain, 10-12 May 2017, **12**, 113-122.
- **Aribas U.N.**, Eratli N., Omurtag M.H., "Free vibration analysis of moderately thick, sandwich, circular beams", World Congress on Engineering 2016, London, England, 29 June – 1 July 2016, 1127-1130.
- **Aribas U.N.**, Kutlu A., Omurtag M.H., "Static analysis of moderately thick, composite, circular rods via mixed FEM", World Congress on Engineering 2016, London, England, 29 June – 1 July 2016, 1022-1025.
- **Aribas U.N.**, Omurtag M.H., "Mixed FE Analysis of Viscoelastic Cylindrical Helixes", 2nd International Congress on Advances in Applied Physics and Materials Science (APMAS), Antalya, Turkey, 26-29 April 2012, 1476, 61-64.
- Kutlu A., **Aribas U.N.**, Karayigit H., Omurtag M.H., "Flexure of the Moderately Thick Elliptic Plates on Arbitrarily Orthotropic Elastic Foundation", Advances in Applied Mechanics and Modern Information Technology 2011, Baku, Azerbaijan, 22-23 September 2011, 210-214.

NATIONAL REFEREED CONFERENCE PUBLICATIONS

- Koc, E., Kahraman, E., Erdogan, M., Arslan, B., Kalayci, O.F., **Aribas, U.N.**, Omurtag, M.H., "The Static Analysis of Functionally Graded Beams via Higher-order Mixed Finite Elements", 23rd National Mechanics Congress, Konya, Turkey, 04-08 September 2023.
- Kargı D., **Aribas U.N.**, Gündoğan S., Ermis M., "Structural Performance of Reinforced Concrete Buildings Built Before 2000 via TBEC-2018 (in Turkish)", 18th Technical Congress and Exhibition, Istanbul, 7-9 November 2022.
- **Aribas U.N.**, Atalay M., Aydın M., Ermis M., Omurtag M.H., "The Dynamic Analyses of FG Circular Beams (in Turkish)", 22nd National Mechanics Congress, Adana, Turkey, 06-08 September 2021.
- Kir O., Ermis M., **Aribas U.N.**, Omurtag M.H., "The Static Analyses of AFG Elliptical beams via MFEM (in Turkish)", 22nd National Mechanics Congress, Adana, Turkey, 06-08 September 2021.

- Aydogan G., Ermis M., **Aribas U.N.**, Omurtag M.H., "The Free Vibration Analyses of AFG Elliptical beams via MFEM (in Turkish)", 22nd National Mechanics Congress, Adana, Turkey, 06-08 September 2021.
- **Aribas U.N.**, Ermis M., Kutlu A., Eratli N., Omurtag M.H., "Warping Included Stress Distribution of Composite Curved Beams using Mixed Finite Element Method (in Turkish)", Nigde, Turkey, 2-6 September 2019.
- **Aribas U.N.**, Ermis M., Kutlu A., Eratli N., Omurtag M.H., "Dynamic Analysis of Warping Considered Curved Composite Beams Resting on Viscoelastic Foundation (in Turkish)", 20.National Mechanics Congress, Bursa, Turkey, 5-9 September 2017.
- **Aribas U.N.**, Yılmaz M., Omurtag M.H., "The Influence of Warping Considered Torsional Rigidity of Curved Composite Beams on the Static and Dynamic Analyses (in Turkish)", 20.National Mechanics Congress, Bursa, Turkey, 5-9 September 2017.
- Eratli N., Calim F.F., **Aribas U.N.**, Omurtag M.H., "Finite element analysis of viscoelastic conical helixes for various parameters, (in Turkish)", 17. National Mechanics Congress, Elazığ, Turkey, 5-9 September 2011, 324-333.
- Kutlu A., **Aribas U.N.**, Karayigit H., Omurtag M.H., "Flexure of the Moderately Thick Elliptic Plates on Arbitrarily Orthotropic Elastic Foundation", 17. National Mechanics Congress, Elazığ, Turkey, 5-9 September 2011, 481-487.

REFERENCES

The references will be given upon request.