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Former: Mechanical Engineering Department, Chair
University of Başkent, Ankara, Turkey
Now: Institute of Science and Engineering, Director
University of Başkent, Ankara, Turkey

Research Interest: Fracture Mechanics, Advanced Composite Materials, Materials, Solid Mechanics, Ballistics, Impact Mechanics

Education:

- **BS:** Boğaziçi University, Mechanical Engineering, İstanbul, 1983
- **MS:** Boğaziçi University, Mechanical Engineering, İstanbul, 1986
- **PhD:** Middle East Technical University, Metallurgical Engineering, Ankara, 1992
- **Associate Professor:** Middle East Technical University, Ankara, 1996
- **Professor:** University of Başkent, Ankara, 2005

Work Experience

- 1991–1992 yılları arası Kanada National Research Council (NRC)’de Araştırma Mühendisliği,
- 1986–1992 yılları arasında KHO’da *Malzeme, Statik, Dinamik, Balistik ve Silah Sistemleri Dersleri* Öğretim Üyeliği
- 1992–1994 yılları arasında M52T Kundağı Motorlu Obüs Modernizasyonu sistem tasarım subayı,
- 1995 yılında 155 mm L–39 Silah Sisteminde kullanılacak “Geri Tepme Sisteminin” yurt içinde tasarım ve imalatı proje subayı,
- 1996 yılında 155 mm L–39 Silah Sistemi için kullanılacak “Gaz Tahliye Sistemi/Bore Gas Evacuator” tasarım ve imalatı proje subayı,
- 1997–1999 yılları arasında Türkiye’de ilk defa Gerçekleştirilen T–155 Çekili Panter Obüsü Prototipinin tasarım ve imalatında Proje Yöneticiliği,
- 1997–1999 Kara Harp Okulunda *Sistem Tasarımı ve malzeme Bilimi Dersleri* yarı zamanlı öğretim üyeliği,

- 1999–2000 yılları arasında geliştirilen prototipe dayalı T–155 Çekili Panter Obüsü seri imalatı Proje Yöneticiliği,
- 1999–2001 yılları arasında yine Türkiye’de ilk defa tasarımı yapılarak imal edilen T-155 K/M Fırtına Obüsü Prototip imalatında Proje Yöneticiliği,
- 2001–2004 yılları arasında T–155 K/M Fırtına obüsünün sanayileşme modeline dayalı üretimine yönelik modern bir imalat hattının tesis ve işletiminde Proje Yöneticiliği,
- 2000–2001 yıllarında Türkiye’de ilk defa imal edilen 40 mm Bomba Atar projesinde Proje Yöneticiliği,
- 1999–2002 yıllarında Ateş Destek Otomasyon Projesi (ADOP–2000) Proje Yöneticiliği,
- 1999–2001 yıllarında Batarya Atış Kontrol Sistemi (BAİKS–2000) Proje Yöneticiliği,
- 2000–2001 yıllarında 81 mm havan mühimmatlarına ait Adedi Atış Cetveli (AAC) hazırlanmasında proje yöneticiliği,
- 2002–2003 yıllarında 155 mm Panter ve Fırtına obüslerine ait balistik uygulamalarına dayalı Adedi Atış Cetveli (AAC) hazırlanmasında proje yöneticiliği,
- 2002–2003 yıllarında KHO Savunma Bilimleri Enstitüsünde *Alaşım Dersi* /yarı zamanlı öğretim üyeliği,
- 1999–2004 yıllarında K. K. Tek. ve Prj. Ynt. D. Bşk. lığı, Silah Sistemleri ve Mühimmat Şube Müdürü.
- 2005-2013 yıllarında Makine Mühendisliği Bölüm Başkanı, Başkent Üniversitesi,
- 2015-2019 yıllarında Biyomedikal Mühendisliği Bölüm Başkanı, Başkent Üniversitesi,
- 2018 yılından itibaren Fen Bilimleri Enstitü Müdürü, Başkent Üniversitesi,

Selected Publications

1. F.Elaldı and Ö.Vardar, “Çentik Geometrisinin Cam Elyaf Takviyeli Polyesterin Kırılma Davranışına Etkisi”, *İkinci Ulusal Kırılma Konferansı Bildirileri*, M. Doruk, Eds., P.117-125, Trabzon, 1-3 Temmuz, 1987
2. F.Elaldı, S.Lee And R.F.Scott, “Manufacture of Composite Panels With J-Shape Stiffeners”, *J.of Materials and Manufacturing Processes*, Vol.10, No. 1, P.27-36, 1995
3. S.Lee, F.Elaldı, H.Villalobos, And R.F.Scott, “Design And Manufacture of Stiffened Composite Panels, *J.of Science And Engineering of Composite Materials*, Vol. 4, No. 2, 1995
4. S.Lee, F.Elaldi, H.Villalobos, and R.F.Scott, "Experimental and Analytical Study of J-Stiffened Panels Loaded in Axial Compression", *Metal Matrix Composites*, Vol. 6, P.519, 1993
5. M.Akçay And F.Elaldı, “Experimental Investigation of Effects of Explosive Length And Stand Off Distance On Shaped Charges”, *Turkish J.of Engineering And Environmental Sciences*, TÜBİTAK, Vol. 21, P.285-287, Ankara, 1997
6. F.Elaldı And M.Akçay, “Design and Testing of Recoil Mechanism Used For Self Propelled Howitzers”, *ARI The Bulletin of The Technical University of Istanbul*, Vol. 49, P.d301-316, 1996
7. F.Elaldı, “A Design Analysis For J-Stiffened Composite Panels ”, *Journal of The Institute of Science And Technology*, Gazi University, Vol. 9, No.3, P.393, Ankara, 1996
8. F.Elaldı and M. Akçay, “Proje Yönetiminde Bir Model-Ömür Devir Modeli”, *Türk Silahlı Kuvvetleri Dergisi*, Sayı.2, Nisan 1995,
9. F.Elaldı, S.Lee and R.F. Scott, “Processing and Environmental Effects on Mechanical Properties of Composite Repairs”, LTR-ST-1826, *Laboratory Technical Report of National Research Council Canada of Institute for Aerospace Research*, Ottawa, Canada, May 1991,
10. F.Elaldı, S.Lee and R.F. Scott, “Design, Fabrication and Compression Testing of Stiffened Composite Panels for Aircraft Structures”, LTR-ST-1872, *Laboratory Technical Report of National Research Council Canada of Institute for Aerospace Research*, Ottawa, Canada, April 1992,
11. S. Aleçakır and F. Elaldı, “Damage Tolerance of Stiffened Composite Panels with Cutouts”, *NATO/RTO (AVT) Technical Report*, Ankara, Turkey, 2003
12. F.Elaldı, S.Lee And R.F.Scott, “A Review Of Design And Manufacturing Methodologies For Stiffened Composite Panels Used In Aircraft”,

Airframe Materials, R.T.Holt And S.Lee, Eds., Proceedings Of A Symposium Held During The 30th. Annual CIM Conference Of Metallurgists, P.103, Ottawa, Canada, 1991

13. S.Lee, F.Elaldı, H.Villalobos, And R.F.Scott, “Experimental And Analytical Study Of J-Stiffened Composite Panels Loaded In Axial Compression”, Composite Properties And Applications, A.Miravete, Eds., *Proceedings Of The Ninth Int. Conf. On Composite Materials, ICCM-9*, Madrid, Spain, 12-16 July 1993.
14. F.Elaldı, S.Lee And R.F.Scott, “Scarf Joint Technique With Cocured And Precured Patches For Composite Repair”, Composite Repair Of Military Aircraft Structures, AGARD-CP-550, *Proceedings Of The 79th. Meeting Of The AGARD Structures and Materials Panel*, Seville, Spain, 3-5 October, 1994, published in 1995, ISBN-92-836-0010-X/AD-A293056
15. F.Elaldı, S.Lee And R.F.Scott, “Manufacture of Composite Panels With J-Stiffeners”, CANCOM’93, *Second Canadian International Composites Conference and Exhibition*, Ottawa, Ontario, Canada, September 1993
16. F.Elaldı, “Fabrication And Testing Of Filament Winded Composite Bore Evacuator Chambers For Self Propelled Howitzer Cannons”, presented for presentation at *ESDA Third Biennial European Joint Conference/ASME on Engineering Systems Design And Analysis*, July 1-4, 1996, Montpellier, France
17. F.Elaldı And S.Lee, “Structural Efficiency of Different Assembly Methods For Stiffened Composite Panels: Cocuring And Secondary Bonding”, Bolted/Bonded Joints in Polymeric Composites, CP-590, *AGARD/SMP Specialists’ Meeting*, 2-6 September, Florence, Italy, 1996, published in 1997, ISBN-92-836-1046-6
18. F. Elaldı, “Artillery Automation”, presented at *AFCEA Symposium on Digital Battlefield*, TAFF&AFCEA, Ankara, Turkey, 29-30 September 1999
19. F.Elaldı, “Navigation Sensor Systems Use in Artillery Systems to Improve the Accuracy”, *NATO SET Panel Symposium on Emerging Military Capabilities Enabled by Advances in Navigation Sensors*, İstanbul, Turkey, 14-16 October 2002, RTO Meeting Proceedings MP-093, SET-050, published in 2003
20. F.Elaldı, “Yönetmelik Değişimleri ve Savunma Sanayii“, *Uluslararası Yönetim ve Askerlik Sempozyumu*, Kara Harp Okulu, Ankara, Türkiye, 26-27 Mayıs 2005
21. F.Elaldı, “An Overview for Structural Health Monitoring of Composites in Aerospace Applications”, *2nd International Conference on Recent Advances in Space Technologies/RAST2005*, Space in the Service of Society, Istanbul, Turkey, 9-11 June 2005

22. F.Elaldi, "Zırh Malzemelerindeki Gelişmeler", *Savunma Sanayiindeki Teknolojik Gelişmeler Sempozyumu*, Kara Harp Okulu, Cilt 2, P.773-784, Ankara, 5-6 Haziran 1997
23. U. Durak, K. Dayanç, F. Elaldi ve Ö. Anlağan, "Topçu Roketlerinin Atış Kontrol Sistemleri için Yeni Nesil Balistik Çözücü", *Birinci Ulusal Savunma Uygulamaları Modelleme ve Simülasyon Konferansı/USMOS 2005*, ODTÜ Kongre Merkezi, Ankara, 2-3 Haziran 2005
24. F.Elaldi And S.Aleçakır, "Damage Tolerance of Stiffened Composite Panels With Cutouts", *J. of Reinforced Plastics and Composites*, Vol.25, No.13, P.1341, 2006
25. F.Elaldi, "The Effects of a Cutout and Stacking Sequences on the Buckling Behavior of Composite Panels", *Advances in Composite materials and Structures, Key Engineering Materials*, Vol. 334–335, Part-1, P.520-524, 2007
26. F.Elaldi, "Design, Fabrication and Finite Element Analysis of Hat-Stiffened Panel Under Uni-Axial Compression", *The Third International Conference on Structural Engineering, Mechanics and Computation*, Cape Town, S. Africa, Proceeding of the Recent Developments in Structural Engineering, Mechanics and Computation, P.349, 10–12 September 2007
27. F.Elaldi, "Buckling, Post-Buckling and Failure Analysis of Hat Stiffened Composite Panel", *8th International Fracture Conference*, Istanbul, Turkey, P. 338–345, 7–9 November 2007.
28. F.Elaldi, "Post-buckling Design Analysis of J and Hat Stiffened Composite Panels", *6th Asia-Australasian Conference on Composite Materials*, Kumamoto, Japan, Proceeding of Progress of Composites, P.307–310, September 2008
29. F.Elaldi and L. Colak, "Buckling and Post-Buckling Behavior of Compression Loaded Composite Panels with Hat Stiffeners", *J. of Reinforced Plastics and Composites*, Vol.28, No.20, Pages: 2501-2509, 2009
30. Prof. Dr. Faruk Elaldi, Prof. Dr. Berna Dengiz, Prof. Dr. Birol Kılıkış, Y. Doç. Dr. Levent Çolak, "Sektörler Arası Tümüleşik, Sürdürülebilir Enerji Politikalarının Geliştirilmesinde Yeni Bir Yol Haritası Ve Örnek Model" Türkiye 11. Enerji Kongresi, İzmir, 21-23 Ekim 2009
31. F.Elaldi, "Post-buckling Strength and Structural Efficiency of Open and Closed-section Stiffened Composite panels", *15th International Conference on Composite Structures, ICCS15*, Porto, Portugal, June 2009

32. F.Elaldi, "Structural Efficiency and Post-Buckling Strength of J and Hat Stiffened Composite Panels", *J. of Reinforced Plastics and Composites*, Vol.29, No.10, Pages: 1590-1594, 2010
33. N.E. İpek and F.Elaldı, "The effects of welding groove angle and geometry on mechanical properties of armor steel", *63rd Annual Assembly & International Conference of the International Institute of Welding*, Istanbul, Turkey, 11-17July 2010
34. F. Cogun, F. Alkan and F.Elaldi, "Design, Manufacture and Implementation of Sheet Metal Hydroforming System, *6th International Conference and Exhibition on Design and Production of Machines and Dies/Molds*, Ankara, Turkey, 23-26 June 2011
35. F.Elaldi and P. Elaldi, "A study on Curing Process and Environmental Effects for Rapid Composite repair", *J. of Reinforced Plastics and Composites*, Vol. 30, No. 9, Pages: 749-755, DOI: 10.1177/0731684411403021, May 2011
36. F. Elaldi, "Processing And Environmental Effects On Mechanical Properties Of Composite Repairs", *The Nineteenth Annual International Conference on Composites/Nano Engineering (ICCE-19)*, Shanghai, China, July 24-30 2011
37. Y. Tansel İç, F.Elaldı, F. Pakdil, N.E. İpek, "Design of Experiment and Goal Programming Application for GMAW Process", *Welding Journal*, Vol. 91, Pages: 106-112, April 2012
38. F. Elaldi, "Structural Performance Efficiency Of Different Assembly Methods For Stiffened Composite Panels", *J. Fac. Eng. Arch. Gazi Univ.* Vol 27, No 1, 41-48, 2012
39. F.Elaldi, "An experimental Study on rapid composite repair techniques", *ECCM-15th European Conference on Composite Materials*, Venice, Italy, 24-28 June 2012
40. M.A. Şanlı and F.Elaldi, "Çok tabakalı kompozit zırh tasarımı, üretimi ve darbe testleri" *Savunma Teknolojileri Konferansı, SAVTEK*, 2012, Ankara, Türkiye
41. M.B. Öztürk, Faruk Elaldı "Determination of Flow Curves for Sheet Metals by Hydraulic Bulge Test", *14th IMPS12/International Material Symposium*, 10-12 Ekim 2012
42. N.E. İpek and F. Elaldi, "Analysis of Welding Groove Angle and Geometry on Strength of Armor Steel", *Materials and Manufacturing Processes*, Vol. 27, No 12 Pages: 1437-1441, 2012 DOI: 10.1080/10426914.2012.709343

43. YT İç, F. Elaldi, F. Pakdil, N.E. Ipek, “Design of Experiment and Goal Programming Application for the GMAW Process” *Welding Journal*, Vol. 91, No. 4, pages. 116-112, 2012, SCIE/Q2)
44. F. Elaldi, “Multilayer Ceramic Composite Armor Design and Impact Tests”, *37th Int. Conf.&Expo on Advanced Ceramics &Composites, ICACC 2013*, Daytona Beach, Florida, USA, 27 -31 Jan 2013
45. Faruk Elaldi, Busra Baykan, Can Akto, “Experimental Analysis for the Effect of Impactor Geometry on Carbon Reinforced Composite Materials”, *Proceeding of AMPT 2016-Advances in Materials and Processing Technologies*, Kuala Lumpur, Malaysia 8th -11th November 2016
46. Y.Tansel İç, Faruk Elaldı, Barış Keçeci, “Topsis Based Taguchi Optimization Of Machining Characteristics In End Milling Operation Of Kevlar-Epoxy Composites”, *Journal Of Chinese Society Of Mechanical Engineers*, Volume 37, Issue 6, pages 653-662, December 2016
47. Chen, J.L., Lee, S., Wu, J.S. and Elaldi F. “Manufacture of Carbon Fiber Nano-Based Epoxy Composite Laminates Using a Vacuum-Assisted Resin Transfer Mold”, *CANCOM2017 - Canadian International Conference On Composite Materials*, Ottawa, Ontario, Canada, 17 - 20 July 2017
48. Faruk Elaldi, Busra Baykan, Can Akto, “Experimental Analysis for the Effect of Impactor Geometry on Carbon Reinforced Composite Materials”, *Polymers & Polymer Composites*, Volume 25, Issue 9, pages 677-682, 2017
49. Y.T.İç, F.Elaldı et al, “An optimization for milling operation of Kevlar fiber-epoxy composite material using factorial design and goal programming methods”, *Journal of the Faculty of Engineering and Architecture of Gazi University*, Volume 34, No 3, pages 1549-1560, 2019
50. İsmail Cengiz & Faruk Elaldı, “Post-buckling Design Analysis for Stiffened Helicopter Fuselage Aluminium Panels”, *The Vertical Flight Society's 75th Annual Forum & Technology Display*, Philadelphia, Pennsylvania, May 13-16, 2019
51. Faruk Elaldi & Batuhan Ciloglu, “A Comparison on Column Reinforcement with Conventional Concrete and Carbon Fiber/ Epoxy exposed to Compression Loading”, *2019 3rd International Conference on Sensors, Materials and Manufacturing (ICSMM 2019)*, National Taipei University of Technology, Taipei, Taiwan November 18-20, 2019
52. Yelda Ozdil Kacan & Faruk Elaldi, “Ballistic performance of unidirectionally oriented carbon fiber reinforced composite armor with high-velocity impact”, *Journal of Reinforced Plastics and Composites*, Vol 39, No 19-20, Pages: 733-741, 2020

53. Faruk Elaldi, “Low Velocity Impact Behaviour of Composite Laminates Containing TiC and ZrC Nano-Particles in Resin System”, *Nanotech France 2022, Paris, France*, June 15-17, 2022
54. Yelda Ozdil Kacan & Faruk Elaldi, “A numerical model for analysis of layer thicknesses on ballistic resistance of a multilayer armor” *Journal of Reinforced Plastics and Composites*, Vol 42, No 3-4, Pages: 140-149, 2023
DOI: 10.1177/07316844221104144
55. Pelin Alabay & Faruk Elaldi, “Low Velocity Impact Behavior of Composite Laminates Containing TiC and ZrC Nano-Particles in Resin System”, *Nano Hybrids and Composites*, Vol. 38, Pages: 25-35, 2023
DOI:10.4028/p-ul755z
56. Beyza Naz Karaduman & Faruk Elaldi, “Effects of Repair Techniques and Scarf Angles on Mechanical Performance of Composite Materials”, *Journal of Reinforced Plastics and Composites*, Vol 42, No 9-10, Pages: 405-412, on line, September 2023
DOI: 10.1177/07316844221128318
57. Mehmet Tarku & Faruk Elaldi, “Experimental Ballistic Performance Analysis of Add-On Perforated Armor Plates”, *9th International Basket Congress on Physics, Engineering and Applied Sciences*, Ankara, Turkey, 20-23 may 2023
58. S. Alper Kale & Faruk Elaldi, “A Study on Endurance of Aluminum Road Wheels Produced by Flow Forming for Tracked Land Platforms” *Makina Tasarım ve İmalat dergisi*, Vol.01, No.02, Pages:51-62, 2023
doi.org/10.56193/matim.1214717
59. Faruk Elaldi, “Low Velocity Bird-Like Impact Behaviour on Honeycomb Composite Structure” *ICACM2023 / 6th. International Conference on Advanced Composite Materials*, 23-25 August 2023, Tokyo/Japan
60. Faruk Elaldi and Guray Ertegi, “Analysis of Impact Performance of Repaired Radome after Birdstrike Structure”, *2nd International Congress on Multidisciplinary Natural Sciences (ICOMNAS-2022)*, 1 December 2022, Ankara Turkey

BOOKS

1. Weapon Systems and Ballistics Ankara, 1990.
2. Handbook of Composite Fabrication, G. Akovalı, Editor, “Chapter 7, Machining and Joining Processes”, Chapter Author, RAPRA Technology Ltd., ISBN 1-85957-263-4, Shawbury, UK, 2001

GIVEN COURSES:

Baskent University (2005-)

MS and PhD

- MAK 5xx Mechanical Behavior of Materials (English)
- MAK 5xx Fracture Mechanics (English)
- MAK 5xx Mechanics of Composite materials (English)
- MAK 6xx Fracture and Fatigue of materials (English)
- MAK 6xx Deformation of Engineering materials (English)
- MAK 6xx Impact Mechanics

BS

- MAK 2xx Strength/Mukavemet (English/Turkish)
- MUH 2xx Manufacturing Technologies/Üretim Yöntemleri (English/Turkish)
- MM 2xx Materials science (English) 2006-2007 Gazi University
- MAK 3xx Manufacturing Engineering (English)
- MAK 4xx Mechanical metallurgy (English)
- MAK 4xx Metal Forming (Turkish)
- MAK 4xx Applied Solid Mechanics (English)
- MAK 1xx Introduction to Mechanical Engineering (English/Turkish)