

ÖZGEÇMİŞ

1. Adı Soyadı : Murat Demiral
2. Doğum Tarihi : 11.07.1982
3. Unvanı : Doç.Dr.
4. Öğrenim Durumu: Doktora

Derece	Alan	Üniversite	Yıl
Lisans	Makine Mühendisliği	Orta Doğu Teknik Üniversitesi	2005
Yüksek Lisans	Makine Mühendisliği	Münih Teknik Üniversitesi (Technische Universität München)	2007
Doktora	Makine Mühendisliği	Loughborough Üniversitesi, Birleşik Krallık	2013

5. Akademik Unvanlar:

Yardımcı Doçentlik Tarihi : 12.04.2014

Doçentlik Tarihi : 01.04.2016

6. Yönetilen Yüksek Lisans ve Doktora Tezleri

6.1. Yüksek Lisans Tezleri

- “T-Bağlantılarda yapıştırıcı ve malzemenin çekme dayanımına etkisinin araştırılması” Haşim Can, 09.2016
- “Evaluating the impact of using different cooling technologies on power boosting of the gas turbine unit in Duhok power station-IRAQ” Rabeea Al-Affas, 09.2016
- “Performance analysis of repaired carbon fiber composite materials which have been manufactured in aerospace industry” Fikret Cem Sönmez, 09.2016
- “Structural and mechanical characterization of hybrid nanocomposite material” Hala Al-Zubaidi, 06.2017
- “Role of interphase and characterization of polymer nanocomposite using FT-IR, TGA and SEM” Sadeq M. Hassen Alewei Al-Khidhri, 08.2017

6.2. Doktora Tezleri

- “Extended experimental and numerical study to improve the blanking process in terms of wear resistance of the tool and product quality” Mahmoud Gomah. 2018
- “Effects of various parameters on the strength and failure mode of bolted, bonded and hybrid single lap joints: An experimental and numerical study” Mossa R. El-Zaroug. 2019

7. Yayınlar

7.1. Uluslararası hakemli dergilerde yayınlanan makaleler (SCI & SSCI & Arts and Humanities)

1. **M. Demiral**, A. Roy, V.V. Silberschmidt. Effects of Loading Conditions on Deformation Process in Indentation, *Computers, Materials & Continua*, Vol. 19 (2), pp. 199-216, 2010. **SCI-E**
2. **M. Demiral**, A. Roy, V. Silberschmidt. Deformation processes of advanced alloy in indentation and turning, *Computers, Materials & Continua*, Vol. 31 (3), pp. 157-172, 2012. **SCI-E**
3. A. Zahedi, **M. Demiral**, A. Roy, V. Silberschmidt. FE/SPH modelling of orthogonal micro-machining of f.c.c. single crystal. *Computational Materials Science*, Vol. 78, pp. 104-109, 2013. **SCI**
4. **M. Demiral**, A. Roy, V. Silberschmidt. Indentation studies in b.c.c. crystals with enhanced model of strain gradient crystal plasticity. *Computational Materials Science*, Vol. 79, pp. 896-902, 2013. **SCI**
5. **M. Demiral**, A. Roy, T. El Sayed, V.V. Silberschmidt. Influence of strain gradients on lattice rotations in nano-indentation experiments, *Materials Science and Engineering A*, Vol. 608, pp. 73-81, 2014. **SCI**
6. **M. Demiral**, A. Roy, T. El Sayed, V.V. Silberschmidt. Numerical modelling of micro-machining of f.c.c. single crystal: Influence of strain gradients, *Computational Materials Science*, Vol. 94, pp. 273-278, 2014 **SCI**
7. **M. Demiral**. SPH modelling of vibro-assisted turning of Ti alloy: Influence of vibration parameters, *Journal of vibroengineering*, 2014. **SCI-E**
8. L. Jinxing, **M. Demiral**, T. El Sayed. Taylor-plasticity-based analysis of length-scale effects in void growth, *Modelling and Simulation in Materials Science and Engineering* 22, no. 7: 075005, 2014. **SCI**

9. **M. Demiral**, A.A. Abdel-Wahab, V.V. Silberschmidt. A numerical study on indentation properties of cortical bone tissue: Influence of anisotropy, *Acta of Bioengineering and Biomechanics*, Vol. 17(2), 2015. **SCI-E**
10. **M. Demiral**, A. Roy, V.V. Silberschmidt. Strain-gradient crystal-plasticity modelling of micro-cutting of b.c.c. single crystal, *Meccanica*, Vol.. 51(2), pp. 371-381, 2016. **SCI**
11. **M. Demiral**, K. Nowag, A. Roy, R. Ghisleni, J. Michler, V.V. Silberschmidt. Enhanced gradient crystal plasticity study of size effects in a β -titanium alloy, *Modelling and Simulation in Materials Science and Engineering* 25, no. 3: 035013, 2017. **SCI**
12. U. Asim, M.A. Siddiq, **M. Demiral**. Void growth in high strength aluminium alloy single crystals - A CPFEM based study, *Modelling and Simulation in Materials Science and Engineering* 25, no.3: 035010, 2017. **SCI**
13. **M. Demiral**., Roy, A., & Silberschmidt, V. V. (2016). Strain-gradient crystal-plasticity modelling of micro-cutting of bcc single crystal. *Meccanica*, 51(2), 371-381. **SCI**
14. El Zaroug, M., Kadioglu, F., **M. Demiral** & Saad, D. (2018). Experimental and numerical investigation into strength of bolted, bonded and hybrid single lap joints: Effects of adherend material type and thickness. *International Journal of Adhesion and Adhesives*, 87, 130-141. **SCI**
15. **M. Demiral**, & Kadioglu, F. (2018). Failure behaviour of the adhesive layer and angle ply composite adherends in single lap joints: A numerical study. *International Journal of Adhesion and Adhesives*, 87, 181-190. **SCI**
16. Han, S., Meng, Q., Araby, S., Liu, T., & **M. Demiral** (2019). Mechanical and electrical properties of graphene and carbon nanotube reinforced epoxy adhesives: experimental and numerical analysis. *Composites Part A: Applied Science and Manufacturing*, 120, 116-126. **SCI**
17. Kadioglu, F., **M. Demiral** & El Zaroug, M. (2019). Effects of overlap length on the strength of bolted, bonded and hybrid single lap joints with different adherend materials and thicknesses. *Journal of Adhesion Science and Technology*, 33(20), 2191-2206. **SCI**
18. Kadioglu, F., & **M. Demiral** (2020). Failure behaviour of the single lap joints of angle-ply composites under three point bending tests. *Journal of Adhesion Science and Technology*, 34(5), 531-548. **SCI**

19. Gomah, M., **M. Demiral** (2020). An Experimental and Numerical Investigation of an Improved Shearing Process with Different Punch Characteristics. *Strojnicki Vestnik-Journal of Mechanical Engineering*, 66(6), 375-384. **SCI**
20. Jebri, L., Abbassi, F., **M. Demiral**, Soula, M., & Ahmad, F. (2020). Experimental and numerical analysis of progressive damage and failure behavior of carbon woven-PPS. *Composite Structures*, 243, 112234. **SCI**
21. Deeparekha, N., Gupta, A., **M. Demiral** & Khatirkar, R. K. (2020). Cold rolling of an interstitial free (IF) steel—Experiments and simulations. *Mechanics of Materials*, 148, 103420. **SCI**
22. **M. Demiral**, Tanabi, H., & Sabuncuoglu, B. (2020). Experimental and numerical investigation of transverse shear behavior of glass-fibre composites with embedded vascular channel. *Composite Structures*, 252, 112697. **SCI**
23. **M. Demiral**, Kadioglu, F., & Silberschmidt, V. V. (2020). Size effect in flexural behaviour of unidirectional GFRP composites. *Journal of Mechanical Science and Technology*, 1-9. **SCI**
24. Mert SK, **Demiral M**, Altin M, Acar E, Güler MA. Experimental and numerical investigation on the crashworthiness optimization of thin-walled aluminum tubes considering damage criteria. *Journal of the Brazilian Society of Mechanical Sciences and Engineering*. 2021 Feb;43(2):1-22. **SCI**
25. Eyvazian A, Zhang C, Alkhedher M, **Demiral M**, Khan A, Sebaey TA. Thermal postbuckling of shear deformable multiscale hybrid composite beams. *Smart Structures and Systems*. 2021 Apr;27(4):667. **SCI**
26. Forsat M, Musharavati F, Eyvazian A, **Demiral M**, Khan A, Talebizadehsardari P, Mahani RB, Mobayen S, Sebaey TA. In-plane stress analysis of multiple parallel cracks in an orthotropic FGM medium under time-harmonic loading. *Theoretical and Applied Fracture Mechanics*. 2021 Jun 1;113:102936. **SCI**

7.2. Uluslararası diğer hakemli dergilerde yayımlanan makaleler

- **M. Demiral**, A. Roy, V.V. Silberschmidt. Finite element simulation of ultrasonically-assisted turning of Ti-15-333, *2nd MAMINA conference in proceedings of the 20th international workshop on computational mechanics of materials (IWCMM20)*, Loughborough, UK, pp. 7-17, 2010.
- **M. Demiral**, N. Ahmed, A. Roy, V.V. Silberschmidt. Mechanics of material removal process in ultrasonically assisted cutting: Advanced finite element Study, *Proceedings of the 4th CIRP International Conference on High Performance Cutting*, Gifu, Japan, Vol. 2, pp. 43-48, 2010.

- **M. Demiral**, A. Roy, V. Silberschmidt. Repetitive indentation of Ti-based alloys: A numerical study, *IOP Conf. Series: Materials Science and Engineering* 10, 2010.
- **M. Demiral**. Comparison of implicit time integration schemes for nonlinear dynamic problems, *ASME Conference Proceedings*, pp. 165-170, 2010.
- **M. Demiral**, A. Roy, V.V. Silberschmidt. Dynamic behaviour of advanced Ti alloy under impact loading: Experimental and numerical analysis, *Applied Mechanics and Materials*, Vol. 70, pp. 207-212, 2011.
- **M. Demiral**, T. Leemet, M. Hokka, V. T. Kuokkala, A. Roy, V.V. Silberschmidt. Finite-element simulations of split Hopkinson test of Ti-based alloy, *Advanced Materials Research*, Vol. 223, pp. 296-303, 2011.
- R. Muhammad, N. Ahmed, **M. Demiral**, A. Roy, V.V. Silberschmidt. Computational Study of Ultrasonically-Assisted Turning of Ti alloys, *Advanced Materials Research*, Vol. 223, pp. 30-36, 2011.
- A. Zahedi, **M. Demiral**, A. Roy, V. Babitsky, V.V. Silberschmidt. Indentation in f.c.c. single crystals, *Solid State Phenomena*, Vol. 118, pp. 219-225, 2012.
- R. Muhammad, **M. Demiral**, A. Roy, V.V. Silberschmidt. Modelling the dynamic behaviour of hard-to-cut alloys under conditions of vibro-impact cutting, *Journal of Physics: Conference Series*, vol. 451(1), pp. 012030, IOP Publishing, 2013.
- R. Muhammad, A. Maurotto, **M. Demiral**, A. Roy, V.V. Silberschmidt. Thermally enhanced ultrasonically assisted machining of Ti alloy, *CIRP Journal of Manufacturing Science and Technology*., Vol. 7(2), pp. 159-167, 2014.
- A.K. Mahmoud, S.I. Al-Nassar, **M. Demiral**,. H.M. Kadhim. A Study of the Structural and Mechanical Characterization of Hybrid Nanocomposite Material. *Materials Science Forum - Trans Tech Publications*, Vol. 909, pp. 111-115., 2017
- F. Kadioglu, **M. Demiral**, Avil, E., Ercan, M.E. and T. Aydogan. Performance of Adhesively-bonded Joints of Laminated Composite Materials under Different Loading Modes. In 2018 AIAA/ASCE/AHS/ASC Structures (8 pages).
- Jamali, J., AlDrais, S., Ibrahim, F., AlFoudari, N., Abbassi, F., & **M. Demiral** (2020). Woven carbon fiber epoxy fracture testing. *Procedia Structural Integrity*, 25, 180-185.

- Kadhim HM, Al-Nassar SI, Al Azzawi W, Shehab AA, Mahmoud AK, **Demiral M.** Evaluation of the Mechanical Characteristics of Hybrid Nanocomposite Materials (TiO₂-SiO₂-ZrO₂). In IOP Conference Series: Materials Science and Engineering 2021 Feb 1 (Vol. 1076, No. 1, p. 012083). IOP Publishing.

7.3. Uluslararası bilimsel toplantılarda sunulan ve bildiri kitabında (*Proceedings*) basılan bildiriler

- **M. Demiral,** A. Roy, V.V. Silberschmidt, Effects of strain gradients on texture evolution in nanoindentation experiments: A numerical Study, *3rd International Workshop on Physics Based Material Models and Experimental Observations*, Cesme-Izmir, Turkey, 2-4 Jun 2014.
- **M. Demiral,** A. Roy, V.V. Silberschmidt, Finite element modelling of micro-machining process, *4th APMAS conference*, Dalaman-Muğla, Turkey, 24-27 Apr 2014.
- **M. Demiral,** A. Zahedi, T. El Sayed, A. Roy, V.V. Silberschmidt, Numerical modelling of micro-machining of f.c.c. single crystal: Influence of strain gradients, *21th International Workshop on Computational Mechanics of Materials (IWCCM23)*, National University of Singapore, SINGAPORE, 2-4 Oct 2013.
- **M. Demiral,** A. Roy, V.V. Silberschmidt, Deformation mechanisms in advanced Ti-based alloy in indentation: Size effects, *10th world congress on Computational Mechanics (WCCM 2012)*, Sao Paulo, BRAZIL, 8-13 July 2012.
- A. Zahedi, **M. Demiral,** A. Roy, V. Babitsky, V.V. Silberschmidt. Indentation in f.c.c. single crystals, *Advanced Materials and Structures 2011 (AMS'11)*, Timisoara, ROMANIA, 27-28 October 2011.
- **M. Demiral,** A. Roy, V.V. Silberschmidt. Dynamic behaviour of advanced Ti alloy under impact loading: Experimental and numerical analysis, *8th International Conference on Advances in Experimental Mechanics: Integrating Simulation and Experimentation for Validation (BSSM 2011)*, Edinburgh, SCOTLAND, 7-9 September 2011.
- **M. Demiral,** A. Zahedi, A. Roy, V. V. Silberschmidt, Deformation mechanisms of advanced Ti-based alloy in nano-scale: A numerical study based on experiments, *2nd International Conference on Material Modelling (2nd ICMM)*, Paris, FRANCE, 31 August - 2 September 2011.

- **M. Demiral**, A. Roy, V.V. Silberschmidt, Deformation mechanisms of an advanced Ti-based alloy in indentation, *21th International Workshop on Computational Mechanics of Materials (IWCMM21)*, Limerick, IRELAND, 21-24 August 2011.
- **M. Demiral**, T. Leemet, M. Hokka, V. T. Kuokkala, A. Roy, V.V. Silberschmidt, Numerical analysis of split Hopkinson pressure bar experiment, *13th CIRP Conference on Modelling of Machining operations*, Sintra, PORTUGAL, 12-13 May 2011.
- **M. Demiral**, A. Roy, V.V. Silberschmidt, Deformation mechanisms of Ti-alloy in instrument-workpiece interaction: Dynamic and kinematic aspects, *International Conference on Computational & Experimental Engineering & Sciences 2011 (ICCES'11)*, Nanjing, CHINA, 18-21 April 2011.
- **M. Demiral**, A. Roy, V.V. Silberschmidt, Mechanics of material removal process in ultrasonically assisted cutting: Advanced finite element Study, *4th CIRP International Conference on High Performance Cutting*, Gifu, JAPAN, 24-26 October 2010.
- **M. Demiral**, A. Roy, V.V. Silberschmidt, Finite element simulation of ultrasonically-assisted turning of a Ti-based alloy, *20th International Workshop on Computational Mechanics of Materials (IWCMM20)*, Loughborough, UK, 8-10 September 2010.
- **M. Demiral**, A. Roy, V.V. Silberschmidt, Deformation mechanisms in advanced Ti-based alloy in indentation: Size effects, *9th world congress on Computational Mechanics (WCCM 2010)*, Sydney, AUSTRALIA, 19-23 July 2010.
- **M. Demiral**, Comparison of implicit time integration schemes for nonlinear dynamic problems, *ASME 2010 10th Biennial Conference on Engineering Systems Design and Analysis (ESDA 2010)*, Istanbul, TURKEY, 12-14 July 2010.
- **M. Demiral**, A. Roy, V.V. Silberschmidt, Advanced numerical study on the ultrasonically-assisted machining, *International Conference on Computational & Experimental Engineering & Sciences 2010 (ICCES'10)*, Las Vegas, USA, 28 March-1 April 2010.

7.4. Yazılan uluslararası kitaplar veya kitaplarda bölümler

- Mechanics of Advanced Materials/Analysis of Properties and Performance, Bölüm adı:(Crystalline Deformation in the Small Scale) (2015)., DEMİRAL MURAT,Roy Anish,Silberschmidt Vadim V, Springer International Publishing, Sayfa Sayısı 20,

ISBN:978-3-319-17117-3, İngilizce(Bilimsel Kitap)

- Applied Nanoindentation in Advanced Materials, Bölüm adı: (Modelling and simulations of nanoindentation in single crystals) (2017)., Liu Qiang,DEMİRAL MURAT,Roy Anish,Silberschmidt Vadim V, Wiley, İngilizce(Bilimsel Kitap)
- Advanced Machining Process, Finite element modelling of mechanical micromachining (2018)., Samad Nadimi Babil Oliaei, DEMİRAL MURAT, Taylor and Francis Group, pp.245-281. ISBN: 978-1-138-03362-7.

7.5. Ulusal hakemli dergilerde yayımlanan makaleler

7.6. Ulusal bilimsel toplantılarda sunulan ve bildiri kitabında basılan bildiriler

7.7. Diğer yayınlar

7.8. Atıf Sayısı:

- 477 adet, h-index: 13 (Google Scholar)

8. Ulusal & Uluslararası Projeler (DPT, TÜBİTAK, AB, vb.)

- Savunma Sanayii Müste arlığı (TAI işbirliği): Hızlı helikopter için rijit rotor pal analizi ve tasarımı, ARAŞTIRMA PROJESİ, Uzman, 2016-2018
- 2232 Yurda Dönüş Araştırma Programı: Mikron seviyedeki dikey metal kesme işleminde boyut etkisinin kristal plastisite sonlu elemanlar yöntemi ile modellenmesi, TÜBİTAK PROJESİ, Yürütücü, 2014-2016
- Avrupa Birliği 7. Çerçeve Programı: Talaşlı imalat işleminin makro, mikro ve nano yönü, AB PROJESİ, Araştırmacı, 2009-2012
- King Abdullah University of Science and Technology (KAUST) Araştırma Bursu: Ultrason destekli imalat işleminin SPH yöntem ile modellenmesi, ARAŞTIRMA PROJESİ, Araştırmacı, 2013-2014
- Neuner+Graf IG: Düsseldorf Hava Tren Yolu (Sky Train Railroad) statik ve dinamik analizleri, ARAŞTIRMA PROJESİ, Araştırmacı, 2006-2007
- Isko Engineers AG: Hava yastığı patlaması ve çarpma testlerinin nümerik simülasyonları, ARAŞTIRMA PROJESİ, Araştırmacı, 2007-2007
- Isko Engineers AG (BMW Group ve Audi AG ile işbirliği): Otomobil parçaların yapısal analizi, ARAŞTIRMA PROJESİ, Uzman, 2007-2009
- Loughborough University (University of Edinburgh, University of Glasgow, Mectron Medical ile birlikte): Kemik kesme işleminin çok ölçekli modellenmesi, ARAŞTIRMA PROJESİ, Araştırmacı, 2012-2013

9. İdari Görevler

- Bölüm Başkanı V., Türk Hava Kurumu Üniversitesi Mühendislik Fakültesi Makina Mühendisliği Bölümü (2015-2017)
- Makina-Uçak Anabilim Dalı Başkanlığı, Türk Hava Kurumu Üniversitesi (2016-2017)

10. Bilimsel ve Mesleki Kuruluşlara Üyelikler

11. Ödüller ve Editorlük

- Yayın Teşvik Ödülü, TÜBİTAK, 2014
- Doktora Eğitim Bursu, Makina ve İmalat Mühendisliği, Loughborough University, İNGİLTERE, 2009
- Üstün Performans Hakemlik Ödülü (Outstanding Reviewer) – IOP Smart Materials and Structures, 2016
- Editör Kurulu Üyesi – IJEES
- Hakemlikler:
 - Zeitschrift für Angewandte Mathematik und Mechanik*
 - Materials Research Express*
 - Ultrasonics*
 - European Journal of Mechanics - A/Solids*
 - Shock and Vibration*
 - Journal of Vibration and Control*
 - Journal of Micromechanics and Microengineering*
 - Journal of Applied Mechanics*
 - Transactions of ASME*
 - Journal of Physics: Conference Series*
 - Agronomy Research*
 - Smart Materials and Structures*
 - Measurement Science and Technology*
 - Scientica Irenica*
 - Gazi Ünverstes Fen Bilimleri Dergisi Part C: Tasarım ve Teknoloji*
 - Ulusal Savunma Uygulamaları Modelleme ve Simülasyon Konferansı Bildiri Hakemliği*
 - TÜBİTAK-TEYDEB Project Referee (2 projects)*

12. Son iki yılda verdiğiniz lisans ve lisansüstü düzeydeki dersler için aşağıdaki tabloyu doldurunuz.

Akademik Yıl	Dönem	Dersin Adı	Haftalık Saati		Öğrenci Sayısı
			Teorik	Uygulama	
2014-2015	Güz	MEC 207 Material Science and Engineering	3	0	60

		MEC 303 Manufacturing Techniques	3	0	5
		MEC 231 Materials Science and Manufacturing Techniques	3	0	8
		MEC 543 Finite Element Analysis	3	0	13
		MAK 543 Sonlu Elemanlar Yöntemi	3	0	13
	Bahar	MEC 226 Strength of Materials	3	0	55
		MEC 547 Modelling and Simulation in Structural Analysis	3	0	13
		MAK 547 Yapısal Analizlerde Modelleme ve Simülasyon	3	0	15
2015-2016, 2018-2020	Güz	MEC 207 Material Science and Engineering	3	0	60
		MEC 303 Manufacturing Techniques	3	0	50
	Bahar	MEC 226 Strength of Materials	3	0	60
		MEC 599 MAK 599 Yüksek Lisans Tezi	3	0	3
		MEC 590 MAK 590 Dönem Projesi	3	0	3
2016-2017	Güz	MEC 341 Advanced Strength of Materials	3	0	19
		MEC 590 MAK 590 Dönem Projesi	3	0	3
		MEC 792 PhD Thesis Proposal	3	0	3
		MAK 792 Doktora Tez Önerisi	3	0	3

	Bahar	ME 198 Computational Tools for Mechanical Engineers	3	0	75
		ME 402 Introduction to Finite Element Analysis	3	0	35
		MEC 799 Thesis	-	-	3
		MEC 599 Thesis	-	-	4
2017-2018	Güz	ME 198 Computational Tools for Mechanical Engineers	3	0	80
		ME 307 Machine Elements 1	3	0	80
		ME 407 Innovative engineering Analysis and Design	1	4	3
		MEC 799 Thesis	-	-	3
		MEC 599 Thesis	-	-	2
	Bahar	MEC 226 Strength of Materials	3	0	35
		MEC 341 Advanced Strength of Materials	3	0	35
		MEC 799 Thesis	-	-	3
		MEC 599 Thesis	-	-	2