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Personal Information

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International Researcher IDs

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Publons / Web Of Science ResearcherID: S-5627-2019

Yoksis Researcher ID: 320348

Education Information

Doctorate, Gazi University, Fen Bilimleri Enstitüsü, Makine Mühendisliği (Dr), Turkey 2010 - 2017

Postgraduate, Tobb University Of Economics And Technology, Institute Of Science, Makine Mühendisliği (YI) (Tezli), Turkey 2008 - 2010

Undergraduate, Tobb University Of Economics And Technology, Faculty Of Engineering, Department Of Mechanical Engineering, Turkey 2004 - 2008

Dissertations

Doctorate, Osteoporotik vakalar için çeşitli pedikül vida sistemlerinin çekip çıkarma özelliklerinin deneysel karşılaştırması, Gazi University, Fen Bilimleri Enstitüsü, Makine Mühendisliği (Dr), 2017

Postgraduate, Yaşlandırma ısı işleminin sic ve al₂O₃ parçacık takviyeli alüminyum alaşımı esaslı kompozit malzemelerin mekanik özelliklerine etkisi, Tobb University Of Economics And Technology, Fen Bilimleri Enstitüsü, Makine Mühendisliği (YI) (Tezli), 2010

Research Areas

Computer Aided Design and Manufacturing, Non-traditional manufacturing methods, Material, Biomechanics, Mechanical Testing

Academic Titles / Tasks

Associate Professor, Gazi University, Mühendislik Fakültesi, Makina Mühendisliği, 2022 - Continues

Assistant Professor, Gazi University, Mühendislik Fakültesi, Makina Mühendisliği, 2020 - 2022

Academic and Administrative Experience

Deputy Director of the Center, Gazi University, Araştırma ve Uygulama Merkezleri, Proje Koordinasyon Uygulama ve

Supervised Theses

Aycan M. F., Bir güç aktarım şaftını kombine yüklemeler altında test edebilecek modüler test düzeneği tasarımı, Postgraduate, M.ÖĞÜZ(Student), 2024

Aycan M. F., Alüminyum 2024 Sacların Sürünme-Yaşlandırma Şekillendirme Prosesindeki Geri Yaylanma Davranışının Deneysel Olarak Araştırılması, Postgraduate, B.BEKİR(Student), 2022

Aycan M. F., Usta Y., EXPERIMENTAL AND NUMERICAL INVESTIGATION OF THE BENDING BEHAVIOR OF TI-6AL-4V HUMERUS PLATES PRODUCED BY METAL ADDITIVE MANUFACTURING METHOD, Doctorate, K.KAMİL(Student), 2021

Published journal articles indexed by SCI, SSCI, and AHCI

- I. **Additive manufacturing for biomedical bone implants: Shaping the future of bones**
Razzaq M. H., Zaheer M. U., Asghar H., Aktas O. C., AYCAN M. F., Mishra Y. K.
Materials Science and Engineering R: Reports, vol.163, 2025 (SCI-Expanded)
- II. **Postfusion effect on pullout strength of pedicle screws with expandablepeek shell and conventional screws**
Aycan M. F., Arslan A. K., Uslan Y., Demir T.
Acta orthopaedica Belgica, vol.88, no.3, pp.433-440, 2022 (SCI-Expanded)
- III. **Experimental and Numerical Investigation on Bending Behavior of Ti-6Al-4V Parts Produced by Additive Metal Laser Sintering**
Yesilkaya K. K., USTA Y., AYCAN M. F., Demir T.
JOURNAL OF MATERIALS ENGINEERING AND PERFORMANCE, vol.31, no.1, pp.286-296, 2022 (SCI-Expanded)
- IV. **Reproducibility of Replicated Trabecular Bone Structures from Ti6Al4V Extralow Interstitials Powder by Selective Laser Melting**
Balci A., Kucukaltun F., AYCAN M. F., USTA Y., DEMİR T.
ARABIAN JOURNAL FOR SCIENCE AND ENGINEERING, vol.46, no.3, pp.2527-2541, 2021 (SCI-Expanded)
- V. **Investigation on manufacturability of bone plates used in humerus fractures by additive manufacturing method**
AYCAN M. F.
JOURNAL OF THE FACULTY OF ENGINEERING AND ARCHITECTURE OF GAZI UNIVERSITY, vol.34, no.4, pp.2007-2016, 2019 (SCI-Expanded)
- VI. **Comparison of biomechanical properties of implant systems used in treatment of proximal femur fractures**
AYCAN M. F.
JOURNAL OF THE FACULTY OF ENGINEERING AND ARCHITECTURE OF GAZI UNIVERSITY, vol.34, no.2, pp.812-818, 2019 (SCI-Expanded)
- VII. **Investigation of toggling effect on pullout performance of pedicle screws**
AYCAN M. F., YAMAN M. E., USTA Y., DEMİR T., Tolunay T.
PROCEEDINGS OF THE INSTITUTION OF MECHANICAL ENGINEERS PART H-JOURNAL OF ENGINEERING IN MEDICINE, vol.232, no.4, pp.395-402, 2018 (SCI-Expanded)
- VIII. **Pullout performance comparison of novel expandable pedicle screw with expandable poly-ether-ether-ketone shells and cement-augmented pedicle screws**
AYCAN M. F., Tolunay T., DEMİR T., YAMAN M. E., USTA Y.
PROCEEDINGS OF THE INSTITUTION OF MECHANICAL ENGINEERS PART H-JOURNAL OF ENGINEERING IN MEDICINE, vol.231, no.2, pp.169-175, 2017 (SCI-Expanded)
- IX. **Effect of heat treatment on the formation of adiabatic shear bands in high strength steels impacted by AP projectiles**

Articles Published in Other Journals

- I. **Compression and Compression-Shear Strength of Trabecular Metal Structures Produced from Ti6Al4V ELI Alloy by Selected Laser Melting**
Balci A., Aycan M. F., Usta Y., Demir T.
Journal of Polytechnic, vol.24, no.3, 2021 (ESCI)
- II. **Toggle effect on pullout performance of pedicle screws: Review**
AYCAN M. F., DEMİR T.
International Advanced Researches and Engineering Journal, vol.4, no.3, pp.161-172, 2020 (Peer-Reviewed Journal)
- III. **Investigation on Fracture Toughness Values for Various Martensite Volume Fractions**
AYCAN M. F.
JOURNAL OF POLYTECHNIC-POLITEKNIK DERGISI, vol.23, no.2, pp.277-282, 2020 (ESCI)

Papers Published in Refereed Scientific Meetings

- I. **Behavior of Inertial Mass-Spring Mechanisms with Zigzag Slots in Fuze Systems: Drop Test Load Analysis**
Kahraman T., Aycan M. F., Altıntaş R. S., Onuk K.
2025 the 9th International Conference on Mechanical Engineering and Robotics Research (ICMERR), Barcelona, Spain, 15 - 17 January 2025
- II. **From Design to Smile: Leveraging AM and Topological Optimization for Jaw Implant Solutions**
Razzaq M. H., Aktaş C., Mishra Y. K., Aycan M. F.
1st International Conference on Advanced Materials and Advanced Manufacturing (A2M2C), Ankara, Turkey, 18 - 20 October 2023, pp.57-62
- III. **Biodegradable Magnesium Bone Plates; Simulation Based Predictive Model for Controlled Degradation**
Zaheer M. U., Aktaş C., Mishra Y. K., Aycan M. F.
1st International Conference on Advanced Materials and Advanced Manufacturing (A2M2C-1), Ankara, Turkey, 18 - 20 October 2023, pp.171-175
- IV. **DESIGN OF A TEST BENCH TO TEST A POWER TRANSMISSION SHAFT UNDER MULTIAXIAL LOADS**
Oğuz M., Aycan M. F.
16th INTERNATIONAL ISTANBUL CONGRESS ON LIFE, ENGINEERING, ARCHITECTURE, AND MATHEMATICAL SCIENCES, İstanbul, Turkey, 28 - 29 February 2024, pp.269
- V. **Pedikül Vida Türlerinin Suni Füzyon Sonrası ÇekipÇıkarma Dayanımlarının Karşılaştırmalı İncelenmesi**
Aycan M. F., Usta Y., Tolunay T., Yaman M. E., Demir T.
Türk Nöroşirürji Derneği 31. Bilimsel Kongresi, Antalya, Turkey, 29 March - 01 April 2017, pp.107
- VI. **PRODUCTION OF REPLICATED TRABECULAR BONE STRUCTURE BY SELECTIVE LASER MELTING METHOD USING Ti6Al4V POWDER AND INVESTIGATION OF GEOMETRIC ACCURACY**
Küçükaltun F., Balci A., Aycan M. F., Usta Y., Demir T.
The Internatinonal Conference on Materials Science, Mechanical and Automotive Engineerings and Technology, Skopje, Macedonia, 21 - 23 June 2019, pp.375
- VII. **Trabeküler Kemik Yapının Seçimli Lazer Ergitme Metodu İle Ti6Al4V Malzemedeki Üretilirliği**
BALCI A., Küçükaltun F., AYCAN M. F., USTA Y.
5. ULUSLARARASI BİLİŞİM TEKNOLOJİLERİ VE UYGULAMALI BİLİMLER SEMPOZYUMU, Macedonia, 27 June 2019

- VIII. **INVESTIGATION OF BIOMECHANICAL PERFORMANCE OF SUTURE ANCHOR TENODESIS TECHNIQUE**
Aycan M. F.
III. ULUSLARARASIBİLİMSEL VE MESLEKİÇALIŞMALAR KONGRESİ – MÜHENDİSLİK(BILMES EN 2019), 27 - 30 June 2019, pp.13
- IX. **AISI H13 ÇELİĞİNİN FARKLI ISIL İŞLEMLER SONUNDAKİ SERTLİK VE SERTLEŞEBİLİRLİK DAVRANIŞLARININ KARŞILAŞTIRILMASI**
Aycan M. F.
I. Ulusal Mühendislikte Bilimsel ve Mesleki Çalışmaları Kongresi, 29 - 30 June 2019, pp.5
- X. **Kemik İçindeki Gözenekli Yapının Üç Boyutlu Lazer Yazıcılar Kullanarak Ti6Al4V Malzemeden Üretilebilirliği**
Balcı A., Küçükaltun F., Aycan M. F., Usta Y.
5. ULUSLARARASI SOSYAL BİLİMLER KONGRESİ, Nevşehir, Turkey, 27 - 30 June 2019, pp.523-528
- XI. **Investigation on Mechanical Properties of AISI 4140 and AISI 4340 Steels on Various Martensite Volume Fractions**
Aycan M. F.
II. International Scientific and Vocational Studies Congress, 5 - 08 July 2018, pp.520
- XII. **DOĞAL VE YAPAY YAŞLANDIRMANIN ALÜMİNA TAKVİYELİ ALÜMİNYUM ALAŞIMI ESASLI KOMPOZİT MALZEMELERİN SERTLİĞİNE ETKİSİ**
Aycan M. F., Übeyli M.
6th INTERNATIONAL POWDER METALLURGY CONFERENCE EXHIBITION, Ankara, Turkey, 5 - 09 October 2011, pp.616-621
- XIII. **INVESTIGATION ON THE ARTIFICIAL AGING BEHAVIOUR OF CERAMIC PARTICLE REINFORCED ALUMINIUM MATRIX COMPOSITES**
Aycan M. F., Übeyli M.
Novel Aspects of Surfacesand Materials (NASM3), Manchester, United Kingdom, 11 - 15 April 2010, pp.1

Supported Projects

Aycan M. F., Salamci M. U., H2020 Project, Advanced Materials and Advanced ManufacturingTechnologies — A2M2TECH, 2021 - 2026

Salamci M. U., Canyurt O. E., Aycan M. F., Usta Y., TUBITAK Project, FAZ II - YENİ NESİL 3BOYUTLU YAZICI İMALAT TEKNOLOJİLERİ PLATFORMU – (3B-YİP), 2021 - 2025

Aycan M. F., Pekel H. A., Erasmus Project, PHYSICAL ACTIVITY IN WOMEN IN MENOPAUSE: A COLLABORATIVE PARTNERSHIP FOR ACTIVE LIFESTYLES FOR THE PREVENTION AND TREATMENT OF OSTEOPOROSIS, 2019 - 2021

Metrics

Publication: 25

Citation (WoS): 45

Citation (Scopus): 50

H-Index (WoS): 4

H-Index (Scopus): 5

Non Academic Experience

Company, Makine ve Kimya Endüstrisi A.Ş., Teknoloji Yönetimi Genel Müdür Yardımcılığı, Genel Müdür Yrd.
Ministry, TÜRK STANDARDLARI ENSTİTÜSÜ, STANDART HAZIRLAMA MERKEZ BAŞKANLIĞI, TEKNİK KOMİTE BAŞKAN YARDIMCISI

Company, Aspilsan Enerji A.Ş., Yönetim Kurulu, Yönetim Kurulu Üyesi

Organized industrial Zone, KIRIKKALE SİLAH İHTİSAS ORGANİZE SANAYİ BÖLGESİ, -, YÖNETİM KURULU ÜYESİ

European Union, KUZAY ATLANTİK ANTLAŞMASI ÖRGÜTÜ SANAYİ DANIŞMA GRUBU (NATO NIAG), -, TÜRKİYE
DELEGASYON BAŞKAN VEKİLİ

MAKİNA VE KİMYA ENDÜSTRİSİ KURUMU, GENEL MÜDÜR YARDIMCISI

Ministry, SANAYİ VE TEKNOLOJİ BAKANLIĞI, Müsteşarlık, SANAYİ VE TEKNOLOJİ UZMANI