

Prof. ALİ KALKANLI

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International Researcher IDs

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Publons / Web Of Science ResearcherID: AAO-5759-2021

ScopusID: 6602472893

Yoksis Researcher ID: 120236

Education Information

Doctorate, Open University, Faculty of Science, Technology Engineering and Mathematics,
Materials Engineering, United Kingdom 1987 - 1993

Postgraduate, Middle East Technical University, Graduate School of Natural and Applied
Sciences, Metalurji Ve Malzeme Mühendisliği (YI) (Tezli), Turkey 1981 - 1985

Undergraduate, Middle East Technical University, Faculty of Engineering, Department of
Metallurgical and Materials Engineering, Turkey 1976 - 1981

Biography

Prof.Dr.Ali Kalkanlı

Lisans ODTÜ Metalurji Mühendisliği Bölümü

Yüksek Lisans ODTÜ Metalurji Mühendisliği Bölümü Tez konusu: Microstructure of Atomized Metal Powders

Doktora The Open University Milton Keynes U.K Tez konusu: Melt Overflow of Stainless Steel

Doktora sonrası araştırma: İnesigation of Nodular Cast Iron Developed for Sub Zero Temperatures

Çalışma ve araştırma alanları: Metal esaslı kompozitlerin üretimi, alüminyum basınçlı ve sıkıştırma döküm, hızlı katılaşma ve metal toz atomizasyonu, magnezyum alaşım geliştirme, yüksek sıcaklıkta kararlı alüminyum ve çelik alaşımlar geliştirme.

Dissertations

Doctorate, Investigation into Melt Overflow of Alloys, Open University, Engineering , Materials Engineering, 1993

Postgraduate, Microstructures of Metal Powders, Middle East Technical University, Graduate School of Natural and Applied Sciences, Metalurji Ve Malzeme Mühendisliği (YI) (Tezli), 1985

Research Areas

Engineering and Technology

Academic Titles / Tasks

Professor, Middle East Technical University, Faculty Of Engineering, Department Of Metallurgical And Materials Engineering, 2006 - Continues

Advising Theses

KALKANLI A., Cooling behavior and mechanical properties of solid solution strengthened ferritic materials, Postgraduate, B.SHARIATI(Student), 2022

KALKANLI A., Grain refinement of Al-Si-Mg cast alloys with niobium – boron addition, Postgraduate, E.BURAK(Student), 2021

KALKANLI A., Aramid fiber ve B4C parçacık ile takviye edilmiş Al7075 matrisli kompozitlerde haddelemenin ve yaşlandırmanın mekanik ve tribolojik özelliklere etkisi, Doctorate, M.EMİN(Student), 2021

KALKANLI A., Production and characterization of aluminum matrix composites for small-scale unmanned aircraft engine pistons, Postgraduate, M.Demiralp(Student), 2020

KALKANLI A., Thin section high cooling rate solidification, thermomechanical processing and characterization of AISI DC53 cold work tool steel, Doctorate, İ.Seçkin(Student), 2019

KALKANLI A., Melt infiltration of ceramic preforms for functionally graded materials, Postgraduate, C.Erdamar(Student), 2019

KALKANLI A., Effect of mechanical vibration on the microstructure and the mechanical properties of 7075 aluminum alloy produced by semi-solid melting method, Postgraduate, C.Metin(Student), 2019

KALKANLI A., Analyzing of usage of complex-shaped Cu-W parts produced by metal injection molding process for heat sink for high-performance electronic devices, Postgraduate, A.Atak(Student), 2019

İmer M. B., Kalkanlı A., COOLING CURVE THERMAL ANALYSES AND OXYGEN ACTIVITY ANALYSES FOR THE ESTIMATION OF MICROSTRUCTURAL PROPERTIES OF NODULAR CAST IRON, Postgraduate, C.ÇEHİZ(Student), 2019

KALKANLI A., Minimization of banded structure in spring steels by the optimization of continuous casting machine parameters, Postgraduate, M.Akpınar(Student), 2019

KALKANLI A., Development of functionally graded aluminum matrix composite materials for defense industry applications, Postgraduate, T.Yılmaz(Student), 2019

KALKANLI A., Development of high temperature creep resistant aluminium based sand cast magnesium alloys, Postgraduate, E.YALINIZ(Student), 2018

KALKANLI A., Development of CuNiSi-X alloy catenary parts by thermomechanical processing for railway applications, Postgraduate, Ö.FARUK(Student), 2017

KALKANLI A., Development of high strength aluminum matrix composite backing plates for ballistic armor, Postgraduate, T.DURMAZ(Student), 2017

KALKANLI A., Production and heat treatment of 6111 aluminum alloy sheet for car body panel application, Postgraduate, A.SEVİMLİ(Student), 2015

KALKANLI A., Development of cast and heat treated 7075 alloy rifle receiver, Postgraduate, A.UMUR(Student), 2015

KALKANLI A., Elimination of pearlite-ferrite band using soft reduction during continuous casting of HSLA steel /, Postgraduate, S.YETKİN(Student), 2014

KARAKAYA İ., KALKANLI A., Liquid phase sintering of tungsten-nickel-cobalt heavy alloys, Postgraduate,

O.DİNÇER(Student), 2014

Gökler M. I., Kalkanli A., An alternative process including sand casting forging and heat treatment of 30mm diameter X48CrMoV8-1 tool steel, Postgraduate, İ.ALP(Student), 2012

GÖKLER M. İ., KALKANLI A., An Alternative process including sand casting, forging and heat treatment of 30mm diameter X48CrMoV8-1 tool steel, Postgraduate, İ.Alp(Student), 2012

KALKANLI A., Analysis of magnesium addition, hydrogen porosity and T6 heat treatment effects on mechanical and microstructural properties of pressure die cast 7075 aluminum alloy, Postgraduate, E.ALAT(Student), 2012

KALKANLI A., Development of automobile chassis parts via aluminium extrusion and sand casting technology, Postgraduate, O.Demirel(Student), 2012

KALKANLI A., The examination of metal working technology in Kültepe in Assyrian trade colonies period, Doctorate, L.ERCANLI(Student), 2012

KALKANLI A., Development of automobile chassis parts via aluminum extrusion and sand casting technology, Postgraduate, O.DEMİREL(Student), 2012

KALKANLI A., Production and assesment of compacted graphite iron diesel engine blocks, Postgraduate, A.ALKAN(Student), 2011

KALKANLI A., Improvement of impact resistance of aluminum and zinc based die cast parts by means of tool steel inserts, Postgraduate, M.KAMBEROĞLU(Student), 2011

KALKANLI A., Al-Fe-V-Si alaşımlarının yüksek sıcaklık aşınma özelliklerinin incelenmesi, Postgraduate, E.KORAMAN(Student), 2011

KALKANLI A., SEVİNÇ N., A study on the production and properties of in-situ titanium diboride particulate reinforced aluminum A356 alloy composite, Postgraduate, O.SERDARLI(Student), 2011

KALKANLI A., Effect of process parameters on mechanical properties of high pressure die cast magnesium AZ91 components, Postgraduate, I.YILMAZ(Student), 2011

KALKANLI A., Non-destructive X-ray flourescence analysis of Early Bronze Age metal items from Kalinkaya-Toptaştepe: With critical remarks on the formerly applied electrochemical cleaning procedure, Postgraduate, E.YİĞİT(Student), 2011

KALKANLI A., Production and characterization of high performance al - fe - v - si alloys for elevated temperature applications, Postgraduate, S.Sayılgan(Student), 2009

KALKANLI A., Processing and assessment of aluminum ceramic fiber reinforced aluminum metal matrix composite parts for automotive and defense applications, Postgraduate, G.Türkyılmaz(Student), 2009

KALKANLI A., Production and characterization of high performance Al-Fe-V-Si alloys for elevated temperature applications, Postgraduate, S.SAYILGAN(Student), 2009

KALKANLI A., Processing and assessment of aluminum ceramic fiber reinforced metal matrix composite parts for automotive and defense applications, Postgraduate, G.TÜRKYILMAZ(Student), 2009

KALKANLI A., Assessment and modelling of particle clustering in cast aluminum matrix composites, Doctorate, A.ÇETİN(Student), 2008

KALKANLI A., Production of coal crusher hammer heads by bi-metal casting, Postgraduate, T.KIRMA(Student), 2008

KALKANLI A., Production and characterization of alumina fiber reinforced squeeze cast aluminum alloy matrix composites, Postgraduate, Ö.KELEŞ(Student), 2008

KALKANLI A., An investigation of compacted graphite cast iron production by means of thermal analysis technique and other process control windows, Doctorate, O.El(Student), 2007

KALKANLI A., An investigation of compacted graphite cast iron by means of thermal analysis technique and other process control windows, Doctorate, O.EL(Student), 2006

KALKANLI A., Spray rolling of rapidly solidified Al-FeV-Si alloy, Postgraduate, H.AKIN(Student), 2006

KALKANLI A., Hot dynamic consolidation of AlFeVSi alloy powders, Postgraduate, Ş.EZGİ(Student), 2005

KALKANLI A., Production and properties of in-situ aluminum titanium diboride composites formed by slag-metal reaction method, Postgraduate, A.Changızı(Student), 2005

TURANLI L., KALKANLI A., Investigation of the effects of temperature on physical and mechanical properties of monolithic refractory made with pozzolanic materials, Postgraduate, B.MURAT(Student), 2005

KALKANLI A., Thermal analysis of eutectic modified and grain refined aluminum-silicon alloys, Postgraduate, H.EROL(Student), 2005

KALKANLI A., Characterization of silicon carbide particulate reinforced squeeze cast aluminum 7075 matrix composite,

Postgraduate, H.SENCER(Student), 2004

KALKANLI A., SEVİNÇ N., Aluminum oxide and titanium diboride reinforced metal matrix composite and its mechanical properties, Postgraduate, A.KURTOĞLU(Student), 2004

KALKANLI A., Delamination of layered materials under impact loading, Postgraduate, D.DİNÇ(Student), 2003

KALKANLI A., Thermal analysis of gray cast iron by interpretation of cooling curves, Postgraduate, A.ÇETİN(Student), 2002

KALKANLI A., Alüminyum alaşımlarının yönlü katılaşması ve süreç parametrelerinin irdelenmesi, Doctorate, K.KUNT(Student), 2002

KAYNAK C., KALKANLI A., Fatigue behavior of aluminum matrix SiC particulate reinforced composites, Postgraduate, K.SÜHA(Student), 2001

KALKANLI A., Semisolid casting of aluminum silicon alloys, Postgraduate, Ö.KEMAL(Student), 2001

KALKANLI A., Characterization of rapidly solidified Al-Fe-V-Si alloy powders, Postgraduate, B.ARAL(Student), 2001

SEVİNÇ N., KALKANLI A., A study on the production of aluminium oxide-titanium diboride particulate reinforced aluminum composite, Postgraduate, M.Elmadağlı(Student), 2000

KALKANLI A., SEVİNÇ N., A Study on the production of aluminium oxide-titanium diboride particulate reinforced aluminium composite, Postgraduate, M.ELMADAĞLI(Student), 2000

ÖGEL B., KALKANLI A., Mikrostructural and consolidation studies of air-atomized Al-Fe-V-Si and Al-Cr-Fe alloy powders, Postgraduate, Ö.GENCEL(Student), 2000

KALKANLI A., The Production of compacted graphite cast iron and effects of different section sizes, time and postinoculation on the microstructural and mechanical properties, Postgraduate, F.HARAÇCI(Student), 1998

KALKANLI A., Production and heat treatment of alloyed high strength ductile iron., Postgraduate, F.ŞENİZ(Student), 1998

KALKANLI A., As-cast property determination of gray cast irons by thermal analysis, Postgraduate, İ.Uysal(Student), 1998

KALKANLI A., The Production of a ceramic magnet strontium hexaferrite, Postgraduate, E.ÇİFÇİ(Student), 1998

KALKANLI A., Production and characterization of aluminum matrix-tic composites by vacuum sintering, Postgraduate, R.ALPARSLAN(Student), 1998

KALKANLI A., The Production of compacted graphite cast iron and effects of different section sizes, time and postinoculation on the microstructural and mechanical properties., Postgraduate, F.Haraççı(Student), 1998

KALKANLI A., In-situ production of TiC particulate reinforced AL metal matrix composite, Postgraduate, T.SEZENÖZ(Student), 1997

KALKANLI A., Microstructure and high temperature phase studies of rapidly solidified Al-Fe-V-Si alloy, Postgraduate, S.KEMAL(Student), 1997

KALKANLI A., In-Situ production of TiC particulate reinforced Al metal matrix composite, Postgraduate, T.Sezenöz(Student), 1997

Published journal articles indexed by SCI, SSCI, and AHCI

I. Influence of aging process and reinforcement ratio on physical and mechanical properties of carbonized aramid reinforced Al7075 materials

Demir M. E., Çelik Y. H., KALKANLI A.

Proceedings of the Institution of Mechanical Engineers, Part C: Journal of Mechanical Engineering Science, vol.238, no.10, pp.4547-4560, 2024 (SCI-Expanded)

II. The effect of B4C reinforcements on the microstructure, mechanical properties, and wear behavior of AA7075 alloy matrix produced by squeeze casting

Demir M. E., ÇELİK Y. H., KILIÇKAP E., KALKANLI A.

PROCEEDINGS OF THE INSTITUTION OF MECHANICAL ENGINEERS PART E-JOURNAL OF PROCESS MECHANICAL ENGINEERING, vol.237, no.6, pp.2574-2584, 2023 (SCI-Expanded)

III. The Effect of Rolling and Aging on Mechanical and Tribological Properties in B4C Particle Reinforced Al7075 Matrix Composites

Demir M. E., Çelik Y. H., KALKANLI A.

Arabian Journal for Science and Engineering, vol.47, no.12, pp.16187-16208, 2022 (SCI-Expanded)

- IV. **Effect of isothermal transformation treatment and tempering on the microstructure and hardness of a medium c and high si steels**
Kafadar G., Kalkanlı A., Özdemir A. T., Ögel B.
ISIJ International, vol.61, no.5, pp.1679-1687, 2021 (SCI-Expanded)
- V. **Investigation of wear behavior of aged and non-aged SiC-reinforced AlSi7Mg2 metal matrix composites in dry sliding conditions**
Çelik Y. H., Demir M. E., Kılıçkap E., Kalkanlı A.
JOURNAL OF THE BRAZILIAN SOCIETY OF MECHANICAL SCIENCES AND ENGINEERING, vol.42, no.1, 2020 (SCI-Expanded)
- VI. **Refinement of primary carbides in AISI DC 53 cold work tool steel by thin section copper permanent mould casting and water atomization**
ÇARDAKLI İ. S., KALKANLI A.
INTERNATIONAL JOURNAL OF CAST METALS RESEARCH, vol.32, no.3, pp.145-153, 2019 (SCI-Expanded)
- VII. **Effect of solidification rate on microstructure and primary carbides of AISI DC 53 cold work tool steel**
Cardakh I. S., KALKANLI A.
CHINA FOUNDRY, vol.16, no.3, pp.211-216, 2019 (SCI-Expanded)
- VIII. **Investigation of atmospheric corrosion layers on historic iron nails by micro-Raman spectroscopy**
YUCEL N., KALKANLI A., CANER-SALTIK E. N.
JOURNAL OF RAMAN SPECTROSCOPY, vol.47, no.12, pp.1486-1493, 2016 (SCI-Expanded)
- IX. **Processing and microstructural characterization of liquid phase sintered tungsten-nickel-cobalt heavy alloys**
DINCER O., PEHLIVANOGLU M. K., CALISKAN N. K., KARAKAYA İ., KALKANLI A.
INTERNATIONAL JOURNAL OF REFRACTORY METALS & HARD MATERIALS, vol.50, pp.106-112, 2015 (SCI-Expanded)
- X. **Dry sliding wear behaviour of Al-Fe-Si-V alloys at elevated temperatures**
Koraman E., Baydoğan M., Sayilgan S., KALKANLI A.
WEAR, vol.322, pp.101-107, 2015 (SCI-Expanded)
- XI. **Production of in situ aluminum-titanium diboride master alloy formed by slag-metal reaction**
CHANGIZI A., KALKANLI A., SEVINC N.
JOURNAL OF ALLOYS AND COMPOUNDS, vol.509, no.2, pp.237-240, 2011 (SCI-Expanded)
- XII. **Multi-scale characterization of particle clustering in discontinuously reinforced composites**
CETIN A., KALKANLI A.
MATERIALS CHARACTERIZATION, vol.60, no.6, pp.568-572, 2009 (SCI-Expanded)
- XIII. **Numerical simulation of solidification kinetics in A356/SiCp composites for assessment of as-cast particle distribution**
CETIN A., KALKANLI A.
JOURNAL OF MATERIALS PROCESSING TECHNOLOGY, vol.209, no.10, pp.4795-4801, 2009 (SCI-Expanded)
- XIV. **Effect of solidification rate on spatial distribution of SiC particles in A356 alloy composites**
CETIN A., KALKANLI A.
JOURNAL OF MATERIALS PROCESSING TECHNOLOGY, vol.205, pp.1-8, 2008 (SCI-Expanded)
- XV. **Oxygen potential values to produce compacted graphite cast iron**
ELMABROUK O., KALKANLI A., SELÇUK E., ÇETİN A.
CANADIAN METALLURGICAL QUARTERLY, vol.47, no.2, pp.173-186, 2008 (SCI-Expanded)
- XVI. **Synthesis and characterization of aluminum alloy 7075 reinforced with silicon carbide particulates**
KALKANLI A., YILMAZ S.
MATERIALS & DESIGN, vol.29, no.4, pp.775-780, 2008 (SCI-Expanded)
- XVII. **Effects of air atomisation, spray deposition and melt overflow techniques on microstructural features of Al-Fe-V-Si alloy**

- Kalkanli A., MENEKSE K., OZYURDA H.
POWDER METALLURGY, vol.48, no.3, pp.264-269, 2005 (SCI-Expanded)
- XVIII. **Evaluation of latent heat of solidification of grey cast iron from cooling curves**
CETIN A., Kalkanli A.
CANADIAN METALLURGICAL QUARTERLY, vol.44, no.1, pp.1-5, 2005 (SCI-Expanded)
- XIX. **Structure development in rapidly solidified Al-Fe-V-Si ribbons**
Yaneva S., Kalkanli A., Petrov K., Petrov R., van Houbaert I., Kassabov S.
MATERIALS SCIENCE AND ENGINEERING A-STRUCTURAL MATERIALS PROPERTIES MICROSTRUCTURE AND PROCESSING, vol.373, pp.90-98, 2004 (SCI-Expanded)
- XX. **Microstructure characteristics in Al-C system after mechanical alloying and high temperature treatment**
BOSTAN B., OZDEMIR A., Kalkanli A.
POWDER METALLURGY, vol.47, no.1, pp.37-42, 2004 (SCI-Expanded)
- XXI. **Effect of copper alloying on fatigue life and fatigue crack growth behaviour of ductile cast irons**
GURBUZ R., Kalkanli A., GONENC H.
CANADIAN METALLURGICAL QUARTERLY, vol.43, no.1, pp.137-144, 2004 (SCI-Expanded)
- XXII. **Effect of spraying rate on microstructure of spray deposited Al-Fe-V-Si alloy**
Kalkanli A., OREN E.
POWDER METALLURGY, vol.46, no.4, pp.324-328, 2003 (SCI-Expanded)
- XXIII. **The analysis of cooling curves for grey cast iron and its mechanical properties**
Kalkanli A., UYSAL İ., GULDUR H.
CANADIAN METALLURGICAL QUARTERLY, vol.42, no.3, pp.343-348, 2003 (SCI-Expanded)
- XXIV. **Effect of cooling rate on microstructure and high temperature stability of rapidly solidified Al-Fe-V-Si alloys**
Kalkanli A., ANGI S.
POWDER METALLURGY, vol.42, no.4, pp.359-365, 1999 (SCI-Expanded)
- XXV. **Melt instabilities and the effect of surface tension on preventing edge serrations in melt overflow alloy strip casting**
Kalkanli A., WOOD J., Braithwaite N.
ISIJ INTERNATIONAL, vol.38, no.2, pp.142-148, 1998 (SCI-Expanded)
- XXVI. **PRODUCTION AND ASSESSMENT OF DIRECT CAST SOFT MAGNETIC ALLOY STRIPS**
KALKANLI A., WOOD J., GIBBS M.
JOURNAL OF MAGNETISM AND MAGNETIC MATERIALS, vol.83, no.1-3, pp.395-398, 1990 (SCI-Expanded)

Articles Published in Other Journals

- I. **Mechanical Characterization of Graphene/Graphite Added 7075 Composites after Sintering and Thermomechanical Treatments**
KALKANLI A.
Crimson Publishers, vol.17, no.1, pp.1929-1930, 2022 (Peer-Reviewed Journal)
- II. **Melt Infiltration Casting of Alumina Silicon Carbide and Boron Carbide Reinforced Aluminum Matrix Composites**
KALKANLI A., Durmaz T., KALEMTAŞ A., ARSLAN G.
Journal of Material Science Engineering, vol.6, no.04, pp.357-361, 2017 (Peer-Reviewed Journal)

Scientific Refereeing

TUBITAK Project, 1511 - TUBITAK Priority Fields Research Technology Development and Innovation PDP, NEMAK İzmir Döküm Sanayi, Turkey, October 2021

TUBITAK Project, 1511 - TUBITAK Priority Fields Research Technology Development and Innovation PDP, Tuğçelik Aluminyum ve metal San, Turkey, September 2021

TUBITAK Project, 1511 - TUBITAK Priority Fields Research Technology Development and Innovation PDP, ONAT Aluminyum , Turkey, August 2021

TUBITAK Project, 1501 - Industry R & D Projects Support Program, MESAN, Turkey, June 2021

TUBITAK Project, 1501 - Industry R & D Projects Support Program, TOTOMAK Makina ve Yedek Parça, Turkey, October 2019

TUBITAK Project, 1507 - TÜBİTAK SME R&D Start Support Program, Bozok Savunma, Turkey, April 2019

TUBITAK Project, 1501 - Industry R & D Projects Support Program, Sistem Aluminyum, Turkey, January 2019

TUBITAK Project, 1501 - Industry R & D Projects Support Program, DELTAL Otomotiv, Turkey, January 2019

TUBITAK Project, 1507 - TÜBİTAK SME R&D Start Support Program, Albaksan, Turkey, August 2018

Scientific Consultations

Gemciler Güven Metal (TEYDEB ODTÜ Döner sermaye), Project Consultancy, Middle East Technical University, Faculty of Engineering, Department of Metallurgical and Materials Engineering, Turkey, 2020 - Continues

Sinter Metal A.Ş (TEYDEB ODTÜ Projesi), Project Consultancy, Middle East Technical University, Faculty of Engineering, Department of Metallurgical and Materials Engineering, Turkey, 2020 - Continues

DİTAŞ (TEYDEB ODTÜ Döner sermaye), Project Consultancy, Middle East Technical University, Faculty of Engineering, Department of Metallurgical and Materials Engineering, Turkey, 2020 - Continues

TEİ Altun Döküm OTEST , Project Consultancy, Middle East Technical University, Faculty of Engineering, Department of Metallurgical and Materials Engineering, Turkey, 2020 - Continues

TAİ Altun Döküm OTEST , Project Consultancy, Middle East Technical University, Faculty of Engineering, Department of Metallurgical and Materials Engineering, Turkey, 2019 - Continues

Metrics

Publication: 43

Citation (WoS): 380

Citation (Scopus): 470

H-Index (WoS): 9

H-Index (Scopus): 10

Congress and Symposium Activities

Aluminyum ve Bakır Sektörleri Gelişim Çalıştayı, Attendee, Antalya, Turkey, 2017

1. Uluslararası ileri malzemeler konferansı, Attendee, Karabük, Turkey, 2017

9.Ulusal Döküm Kongresi, Attendee, Eskişehir, Turkey, 2017

Non Academic Experience

METU

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METU