

Res. Asst. SERHATCAN BERK AKÇAY

Personal Information

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International Researcher IDs

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Publons / Web Of Science ResearcherID: ABG-1016-2021

ScopusID: 57222093005

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Biography

Serhatcan Berk AKÇAY, 1995 yılında Trabzon ilinde dünyaya geldi. 2013 yılında Karadeniz Teknik Üniversitesi Metalurji ve Malzeme Mühendisliği bölümünü kazandı ve hazırlık eğitimi alarak yüksek öğrenim hayatına başladı. 2014 yılında hazırlık eğitimini tamamlamasının ardından mesleki eğitimine başladı ve bu esnada öğrenci kulüplerine olan ilgisi arttı. 2016 yılında Karadeniz Teknik Üniversitesi Mühendislik Fakültesinden öğrencilerin kurmuş olduğu Enerji Teknolojileri Topluluğuna katıldı. Mezuniyetine kadar bu topluluk aracılığıyla malzeme üretim yöntemleri, tasarım, tasarım odaklı düşünme, kompozit malzemeler, demir dışı metal ve alaşımlar ve alternatif enerjili otomobiller hakkında uygulamalı tecrübe kazanma fırsatına sahip oldu. Enerji teknolojileri topluluğu ile iki tanesi yurtdışı (İngiltere) olmak üzere çeşitli yarışmalara katıldı ve takımı ile birlikte çeşitli başarılar elde etti. 2018 yılında lisans eğitimini tamamladı ve aynı yıl Trabzon Arsin Organize Sanayii bölgesinde hizmet veren bir endüstriyel işletmede mühendis olarak görevine başladı. 2019 yılında işinden ayrılarak lisansüstü eğitime başladı. 2021 yılının son çeyreği itibariyle Karadeniz Teknik Üniversitesi Metalurji ve Malzeme Mühendisliği bölümü Metalurji anabilim dalında Araştırma Görevlisi olarak göreve başladı.

Education Information

Doctorate, Karadeniz Technical University, Mühendislik Fakültesi, Metalurji ve Malzeme Mühendisliği, Turkey 2022 - Continues

Postgraduate, Karadeniz Technical University, Mühendislik Fakültesi, Metalurji ve Malzeme Mühendisliği, Turkey 2019 - 2022

Undergraduate, Karadeniz Technical University, Mühendislik Fakültesi, Metalurji ve Malzeme Mühendisliği, Turkey 2013 - 2018

Foreign Languages

English, B2 Upper Intermediate

Dissertations

Postgraduate, EFFECT OF ELECTROLESS COATING PARAMETERS ON THE PHYSICAL AND MECHANICAL PROPERTIES OF

Research Areas

Material science and engineering, Testing and Control of Materials, Composites, Biomaterials, Plating, Material Characterization, Metallic Materials, Non-Ferrous Alloy Production, Electrolytic Coating, Electrometallurgy, Recycling Processes, Non Metallic Materials Production, Powder Metallurgy

Academic Titles / Tasks

Research Assistant, Karadeniz Technical University, Mühendislik Fakültesi, Metalurji ve Malzeme Mühendisliği, 2021 - Continues

Jury Memberships

Competition, Teknofest-Çevre ve Enerji Teknolojileri Yarışması Lise Seviyesi, Teknofest, June, 2022

Published journal articles indexed by SCI, SSCI, and AHCI

- I. **Investigation of microstructural, hardness, and wear properties of AlCrCuFeNi high entropy alloys produced by hot-pressing with the enhancement of manufacturability through electroless Ag incorporation**
ÇELEBİ M., GÜLER O., KARABACAK A. H., ÇANAKÇI A., AKÇAY S. B., KOCAMAN M., ÇUVALCI H., VAROL T.
Tribology International, vol.201, 2025 (SCI-Expanded)
- II. **Effect of expandable graphite content on the physical, thermal and mechanical properties of novolac matrix composites: Halogen-free flame-retardant polymer composites**
KOCAMAN M., AKÇAY S. B., GÜLER O., ÇUVALCI H., VAROL T.
Diamond and Related Materials, vol.150, 2024 (SCI-Expanded)
- III. **The Effect of Heat Treatment on the Mechanical Properties and Oxidation Resistance of AlSi10Mg Alloy**
Beder M., Akçay S. B., Varol T., Çuvalcı H.
Arabian Journal for Science and Engineering, vol.49, no.11, pp.15335-15346, 2024 (SCI-Expanded)
- IV. **Enhancing mechanical properties and tribological performance through boron carbide hybridization in Novolac matrix graphite composites under dry sliding condition**
KOCAMAN M., AKÇAY S. B., GÜLER O., ÇUVALCI H., VAROL T.
Tribology International, vol.199, 2024 (SCI-Expanded)
- V. **Impact of high Al₂O₃ content on the microstructure, mechanical properties, and wear behavior Al-Cu-Mg/Al₂O₃ composites prepared by mechanical milling**
Beder M., VAROL T., AKÇAY S. B.
Ceramics International, vol.50, no.20, pp.38610-38631, 2024 (SCI-Expanded)
- VI. **Synthesize and characterization of silver coated Ti powders from waste titanium chips by mechanical milling assisted electroless plating method**
AKÇAY S. B., VAROL T., GÜLER O., ALVER Ü.
Materials Chemistry and Physics, vol.323, 2024 (SCI-Expanded)
- VII. **Effect of the Ag coated ABS granules and hot-pressing temperature on the microstructure evolution and properties of novel Ag/ABS composites**
Akçay S. B., Kocaman M., Güler O., Ömür F. D., Varol T., Aslan M., Çava K.
Surfaces and Interfaces, vol.51, 2024 (SCI-Expanded)

- VIII. **Prediction of effect of fabrication parameters on the properties of B4C ceramic particle reinforced AA2024 matrix nanocomposites using neural networks**
Varol T., Çanakçı A., Özşahin Ş., Beder M., Akçay S. B.
Materials Today Communications, vol.39, 2024 (SCI-Expanded)
- IX. **Fabrication of mechanical durable novolac matrix composites with recycled and cost-effective candle-soot nano particles**
Kocaman M., Güler O., Çuvalcı H., Akçay S. B.
JOURNAL OF REINFORCED PLASTICS AND COMPOSITES, 2024 (SCI-Expanded)
- X. **Influence of post processing on the mechanical properties and wear behavior of selective laser melted Co-Cr-Mo-W alloys**
Varol T., Aksa H. C., Yıldız F., Akçay S. B., Kaya G., Beder M.
Tribology International, vol.192, 2024 (SCI-Expanded)
- XI. **Pre-hardening water quenching effect on the wear resistance of TiCN coated 4140 steels**
YALÇIN E. D., GÜLER O., KARABACAK A. H., ÇANAKÇI A., VAROL T., KOCAMAN M., ÇELEBİ M., AKÇAY S. B.
SURFACE & COATINGS TECHNOLOGY, vol.480, 2024 (SCI-Expanded)
- XII. **Surface modification for improving interfacial, mechanical and thermal performance characteristics in epoxy composites: Electroless nickel enhancement of dendritic copper particle-reinforced epoxy**
Akçay S. B., Kocaman M., Çelebi M., Güler O., Varol T.
Surface and Coatings Technology, vol.478, 2024 (SCI-Expanded)
- XIII. **Evolution of Morphology, Particle Size and Oxidation Resistance of Recycled Ti-6Al-4V Powders Prepared by Planetary Ball Milling**
VAROL T., Ömür F. D., AKÇAY S. B., GÜLER O., ERDEMİR F.
Arabian Journal for Science and Engineering, 2024 (SCI-Expanded)
- XIV. **The effect of recycled zinc powder content on the properties of novel novolac matrix hybrid composites**
Kocaman M., Akçay S. B., Güler O., Çuvalcı H., Varol T., Çuvalcı O.
TRIBOLOGY INTERNATIONAL, vol.188, 2023 (SCI-Expanded)
- XV. **Effect of ball mill time and wet pre-milling on the fabrication of Ti powders by recycling Ti machining chips by planetary milling**
Çuvalcı O., Varol T., Akçay S. B., Güler O., Çanakçı A.
POWDER TECHNOLOGY, vol.426, 2023 (SCI-Expanded)
- XVI. **Structure and tribological properties of composites based on a Novolac matrix with Ni-P electrolytic coating**
Güler O., Kocaman M., Akçay S. B., Çuvalcı H., Varol T.
SURFACE & COATINGS TECHNOLOGY, vol.451, 2022 (SCI-Expanded)
- XVII. **The evolution of microstructure and properties of Cu-Cr alloys synthesized via flake powder metallurgy assisted by mechanical alloying and hot pressing**
VAROL T., GÜLER O., AKÇAY S. B., ÇOLAK H.
MATERIALS TODAY COMMUNICATIONS, vol.33, 2022 (SCI-Expanded)
- XVIII. **Effects of fabrication parameters and post-processing treatments on the mechanical and tribological behavior of surface-enhanced copper based materials by selective laser melting**
Aksa H. C., Hacısalıhoğlu İ., Yıldız F., VAROL T., GÜLER O., Kaya G., AKÇAY S. B.
JOURNAL OF MATERIALS PROCESSING TECHNOLOGY, vol.304, 2022 (SCI-Expanded)
- XIX. **Enhancement of electrical and thermal conductivity of low-cost novel Cu-Ag alloys prepared by hot-pressing and electroless plating from recycled electrolytic copper powders**
VAROL T., GÜLER O., AKÇAY S. B., ÇUVALCI O.
Materials Chemistry and Physics, vol.281, 2022 (SCI-Expanded)
- XX. **Novel advanced copper-silver materials produced from recycled dendritic copper powders using electroless coating and hot pressing**
Varol T., Güler O., Akçay S. B., Aksa H. C.
Powder Metallurgy, vol.65, no.5, pp.390-402, 2022 (SCI-Expanded)

- XXI. **The Effect of Selective Laser Melting Process on the Microstructure, Density, and Electrical Conductivity of Silver-Coated Copper Cores**
VAROL T., Hacısalihođlu İ., Kaya G., GÜLER O., Yıldız F., Akxa H. C., Akçay S. B.
Journal of Materials Engineering and Performance, vol.30, no.7, pp.5216-5226, 2021 (SCI-Expanded)
- XXII. **The effect of silver coated copper particle content on the properties of novel Cu-Ag alloys prepared by hot pressing method**
VAROL T., GÜLER O., Akçay S. B., Akxa H. C.
Powder Technology, vol.384, pp.236-246, 2021 (SCI-Expanded)

Articles Published in Other Journals

- I. **The Effect of Milling Time and Hot-Pressing on the Structural Properties and Wear Behavior of CoCrFeMnNi High-Entropy Alloys Fabricated by Mechanical Alloying**
Bulut C., Yıldız F., Varol T., Akçay S. B., Ergüder T. O.
High Temperature Corrosion of Materials, vol.101, no.2, pp.225-249, 2024 (Scopus)
- II. **Aşınma ve Korozyona Dirençli Çelik Yüzeyler Oluşturmak İçin Kullanılan Yüzey İşlemleri Üzerine Bir Derleme**
Yıldız U. T., Varol T., Pürçek G., Akçay S. B.
JOURNAL OF POLYTECHNIC-POLİTEKNİK DERGISİ, vol.27, no.1, 2024 (ESCI)
- III. **Electrodeposition of hard chromium on the interior surface of infantry rifle barrels: an experimental investigation**
Yıldız U. T., VAROL T., AKÇAY S. B., PÜRÇEK G.
The International Journal of Materials and Engineering Technology, vol.6, no.2, pp.66-69, 2023 (Peer-Reviewed Journal)
- IV. **Yüksek Al₂O₃ Oranları ile Takviye Edilmiş Al-Cu-Mg Alaşımlarının Sıcak Pres Yöntemi ile Üretimi**
AKÇAY S. B., VAROL T., AKXA H. C., GÜLER O.
Düzce Üniversitesi Bilim ve Teknoloji Dergisi, vol.11, no.1, pp.111-124, 2023 (Peer-Reviewed Journal)
- V. **The Effect of Mechanical Alloying Time on the Hardness and Electrical Conductivity Properties of Cu-Cr Alloys Produced by Hot Pressing Method**
Çolak H., Akçay S. B., Varol T., Güler O., Akxa H. C.
Karaelmas Fen ve Mühendislik Dergisi, vol.12, no.1, pp.47-58, 2022 (Peer-Reviewed Journal)
- VI. **Effect of Boron Carbide Reinforcement Amount on the Properties of Boron Carbide Reinforced Al Based Composites Bor Karbür Takviyeli Al Esaslı Kompozitlerin Özellikleri Üzerine Bor Karbür Takviye Miktarının Etkisi**
AKÇAY S. B., VAROL T., GÜLER O., Akxa H. C.
El-Cezeri Journal of Science and Engineering, vol.9, no.2, pp.869-881, 2022 (Scopus)
- VII. **Production and Characterization of Al₂O₃/SiC Composites with High SiC Reinforcement**
Akçay S. B., Varol T., Akxa H. C., Güler O.
Afyon Kocatepe Üniversitesi Fen ve Mühendislik Bilimleri Dergisi, vol.22, no.2, pp.353-365, 2022 (Peer-Reviewed Journal)
- VIII. **Production and characterization of Cu-Ag bimetal particles by electroless coating method**
Varol T., Akçay S. B., Güler O.
Gümüşhane Üniversitesi Fen Bilimleri Dergisi, vol.11, no.2, 2021 (Peer-Reviewed Journal)

Refereed Congress / Symposium Publications in Proceedings

- I. **Evaluation of Wear Behavior of Al₂O₃ Alloy Produced via Powder Metallurgy Using the Taguchi Method**
AKÇAY S. B., VAROL T., ERDEMİR F., KOCAMAN M.

Proceeding Book of 3rd International Conference on Contemporary Academic Research ICCAR 2024, Konya, Turkey, 10 - 11 November 2024, pp.232-239

- II. **Investigation of the effects of hot-pressing temperature on Ti-B4C composite materials produced with 10% B4C reinforcement**
AKÇAY S. B., VAROL T., ÇUVALCI O., KOCAMAN M., Atik G.
Proceeding Book of 3rd International Conference on Contemporary Academic Research ICCAR 2024, Konya, Turkey, 10 - 11 November 2024, pp.240-246
- III. **THE EFFECT OF BALL MILLING SPEED ON THE PROPERTIES OF CO-CR-MO-W PARTICLES RECYCLED FROM SLM SUPPORT SCRAP**
Aksa H. C., Varol T., Akçay S. B.
7th International Congress on 3D Printing (Additive Manufacturing) Technologies and Digital Industry 2023, İstanbul, Turkey, 25 - 27 October 2023, no.2, pp.74
- IV. **Investigation of the effects of Electrolytic Ni-P Coating on the Wear Properties of Glass Fiber and Graphite Reinforced Novolac Matrix Hybrid Composites**
Akçay S. B., Kocaman M., Güler O., Varol T., Çuvalcı H.
2nd International Conference on Engineering and Applied Natural Sciences, Konya, Turkey, 15 - 18 October 2022, pp.1132-1136
- V. **EFFECT OF THE ELECTROLESS NI-P COATING ON THE PROPERTIES OF CU PARTICLES**
AKÇAY S. B., GÜLER O., VAROL T.
3rd International Conference on Applied Engineering and Natural Sciences, Turkey, 20 - 23 July 2022, pp.1447-1451
- VI. **Effect of Ni-P Coating on The Microstructure of Copper-Based Materials Produced by Hot-Pressing**
AKÇAY S. B., GÜLER O., VAROL T.
3rd International Conference on Applied Engineering and Natural Sciences, Turkey, 20 - 23 July 2022, pp.1351-1354
- VII. **THE EFFECT OF GRAPHITE AMOUNT ON THE HARDNESS AND ELECTRICAL CONDUCTIVITY PROPERTIES OF COPPER-GRAPHITE COMPOSITES**
VAROL T., AKÇAY S. B., Çolak H.
International Scientific Research Congress Dedicated to the 30th Anniversary of Bakur Eurasia University, Azerbaijan, 27 April 2022, pp.1558-1565
- VIII. **EFFECT OF MECHANICAL MILLING TIME ON THE PROPERTIES OF COPPER-BASED MATERIALS**
VAROL T., AKÇAY S. B., Çolak H.
International Scientific Research Congress Dedicated to the 30th Anniversary of Bakur Eurasia University, Azerbaijan, 27 April 2022, pp.1549-1557
- IX. **The Effect of the Ball Milling Time on the Particle Size and Morphology of Dendritic Copper Particles**
Uludağ A., VAROL T., AKÇAY S. B.
1st International Conference on Engineering and Applied Natural Sciences, Konya, Turkey, 10 May 2022, pp.2361-2365
- X. **Effect of Mechanical Milling and Electroless Silver Coating on the Oxidation Resistance of Copper Powder Produced by Electrolysis**
Sevinç M., VAROL T., AKÇAY S. B., GÜLER O.
1st International Conference on Engineering and Applied Natural Sciences, Konya, Turkey, 10 May 2022, pp.2356-2360
- XI. **The Effect of Electroless Coating and Ball Milling on the Properties of Cu/Ag Compact Materials**
Başar E. Y., VAROL T., AKÇAY S. B., GÜLER O.
1st International Conference on Engineering and Applied Natural Sciences, Konya, Turkey, 10 May 2022, pp.2366-2370
- XII. **Mechanical and Tribological Properties of SLMed Silver Coated Copper Powder Material**
Kaya G., Güler O., Aksa H. C., Akçay S. B., Hacısalıhoğlu İ., Varol T., Yıldız F.
1st International Conference on Advances in Engineering, Architecture, Science and Technology, Erzurum, Turkey, 15 - 17 December 2021, pp.682-690

- XIII. **THE SYNTHESIS OF COPPER-CHROMIUM ALLOY PARTICLES BY MECHANICAL ALLOYING METHOD**
Çolak H., Varol T., Güler O., Akçay S. B., Akça H. C.
3rd INTERNATIONAL GOBEKLITEPE APPLIED SCIENCES CONGRESS, Şanlıurfa, Turkey, 1 - 03 October 2021
- XIV. **THE EFFECT OF HOT-PRESSING TEMPERATURE ON THE HARDNESS AND ELECTRICAL CONDUCTIVITY OF CU-AG LAYERED COMPACTS PRODUCED BY ELECTROLESS COATING AND POWDER METALLURGY**
Varol T., Güler O., Akçay S. B.
INTERNATIONAL ASIAN CONGRESS ON CONTEMPORARY SCIENCES V, Nakhchivan, Azerbaijan, 1 - 02 June 2021, pp.321-329
- XV. **The Effect of pH on the Plating Layer of Silver Plated Copper Powders by Electroless Plating Method**
VAROL T., AKÇAY S. B., GÜLER O., ALVER Ü.
5. International Conference on Material Science and Technology (IMSTEC 2020), Nevşehir, Turkey, 16 - 18 October 2020, pp.60-64
- XVI. **The Effect of Reducing Agent Amount on the Properties of Electroless Silver Plated Copper Powders**
VAROL T., AKÇAY S. B., GÜLER O.
5. International Conference on Material Science and Technology (IMSTEC 2020), 16 - 18 October 2020, pp.65-69
- XVII. **Wear Properties of Cu-Ag-Ni Composites Produced by Electroless Coating and Hot-Pressing**
Güler O., Varol T., Alver Ü., Akçay S. B.
2nd International May 19 Congress of Innovative Scientific Approaches - Applied Sciences, Samsun, Turkey, 27 December 2019, pp.198-207
- XVIII. **PRODUCTION OF CU-AG-CR COMPOSITES FROM THE LAYERED METALLIC POWDERS**
Güler O., Varol T., Alver Ü., Akçay S. B.
2nd International May 19 Congress of Innovative Scientific Approaches - Applied Sciences, Samsun, Turkey, 27 - 29 December 2019, pp.190-197

Supported Projects

- VAROL T., ÇUVALCI H., AKSA H. C., ÖMÜR F. D., AKÇAY S. B., GÜLER O., ÇUVALCI O., BEDER M., Project Supported by Higher Education Institutions, AA2024 Alüminyum Alaşımının Seçici Lazer Ergitme ile Üretimi ve Aşınma Davranışının İncelenmesi, 2023 - Continues
- VAROL T., ÇANAĞCI A., DEVECİ H., YAZICI E. Y., ERDEMİR F., GÜLER O., AKÇAY S. B., AKSA H. C., ÇUVALCI H., Project Supported by Higher Education Institutions, Ti esaslı biyomalzeme atıklarından mekanik öğütme yöntemi ile yüksek katma değerli Ti tozlarının üretimi, 2022 - Continues
- SARI A., GÜLER O., KOCAMAN M., AKÇAY S. B., ÇAKIR E., ÇANAĞCI A., ALVER Ü., ÇUVALCI H., VAROL T., ASLAN M., et al., Project Supported by Higher Education Institutions, MetalGenleştirilmiş GrafitKarbonize edilmiş Polimer Köpük Kompozit Faz Değiştiren Malzemelerinin Isıl Enerji Depolama Amaçlı Geliştirilmesi, 2022 - Continues
- VAROL T., PÜRÇEK G., YANAR H., AKÇAY S. B., YILDIZ U. T., Project Supported by Higher Education Institutions, Namlu İçi Sert Krom Kaplamanın Namlu Özellikleri ve Atış Performansına Etkisinin İncelenmesi, 2022 - 2024
- Varol T., Alver Ü., Yıldız F., TUBITAK Project, Seçici Lazer Ergitme Yöntemiyle Bütünleşik Ve Kendi Kendini Onaran Yeni Nesil Elektrik Kontak Malzemelerinin Geliştirilmesi, 2019 - 2021

Scientific Refereeing

- MATERIALS TODAY COMMUNICATIONS, SCI Journal, November 2023
- MATERIALS LETTERS, SCI Journal, October 2023
- MATERIALS LETTERS, SCI Journal, March 2023
- MATERIALS LETTERS, SCI Journal, March 2023
- MATERIALS TODAY COMMUNICATIONS, SCI Journal, December 2022
- MATERIALS TODAY COMMUNICATIONS, SCI Journal, December 2022
- MATERIALS TODAY COMMUNICATIONS, SCI Journal, December 2022

MATERIALS TODAY COMMUNICATIONS, SCI Journal, October 2022

GAZİ ÜNİVERSİTESİ MÜHENDİSLİK MİMARLIK FAKÜLTESİ DERGİSİ, National Scientific Refreed Journal, July 2021

GAZİ ÜNİVERSİTESİ MÜHENDİSLİK MİMARLIK FAKÜLTESİ DERGİSİ, National Scientific Refreed Journal, June 2021

Scientific Consultations

Teknofest/Tübitak, Project Consultancy, Karadeniz Technical University, Mühendislik Fakültesi, Metalurji ve Malzeme Mühendisliği, Turkey, 2022 - Continues

Metrics

Publication: 51

Citation (WoS): 172

Citation (Scopus): 183

H-Index (WoS): 8

H-Index (Scopus): 8