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Education Information

- I. Doctorate, Yildiz Technical University, Faculty Of Chemical And Metallurgical Engineering, Department Of Metallurgical And Materials Engineering, Turkey 2014 - 2019
- II. Postgraduate, Istanbul Technical University, Kimya-Metalurji Fakültesi, Metalurji Ve Malzeme Mühendisliği, Turkey 2012 - 2014
- III. Undergraduate, Istanbul Technical University, Kimya-Metalurji Fakültesi, Metalurji Ve Malzeme Mühendisliği, Turkey 2007 - 2012

Foreign Languages

- I. English, C1 Advanced

Dissertations

- I. Postgraduate, Gaz Nitrülenerek Sertleştirilmiş 31CrMoV9 Çeliğinde İndentasyon Yöntemiyle Kalıntı Gerilme Ve Sertlik Değişimlerinin İncelenmesi, Istanbul Technical University, Kimya-Metalurji, Metalurji Ve Malzeme Mühendisliği, 2014

Research Areas

Metallurgical and Materials Engineering, Material science and engineering, Composites, Engineering and Technology

Academic Titles / Tasks

- I. Research Assistant PhD, Yildiz Technical University, Faculty Of Chemical And Metallurgical Engineering, Department Of Metallurgical And Materials Engineering, 2013 - Continues

Advising Theses

- I. Birol B., Gecü R., Toz metalurjisinde BorKarbür (B4C) takviyeli çift fazlı(dupleks) paslanmaz çelik matrisli kompozit üretim araştırması ve karakterizasyonu, Postgraduate, S.ÖRÜCÜ(Student), 2023

- I. **Microstructural, tribological, and corrosion behavior of B4C-added TiO₂ coatings applied on 316 L stainless steel via sol-gel method**
Eraslan F. S., BİROL B., GECÜ R.
Ceramics International, vol.50, no.23, pp.49346-49353, 2024 (SCI-Expanded)
- II. **Annealing temperature-dependent microstructure, mechanical, and tribological properties of intercritically heat-treated dual-phase steel**
Çiftçi Y. S., Aygün Z., GECÜ R.
Materials Research Express, vol.11, no.11, 2024 (SCI-Expanded)
- III. **Measuring depth-dependent residual stresses in gaseous nitrided steels using indentation method**
Yayla A. F., GECÜ R., Solak N., Kazmanlı M. K., Ürgen M. K.
Materials Research Express, vol.11, no.8, 2024 (SCI-Expanded)
- IV. **Enhancing wear and corrosion resistance of TiO₂-Al₂O₃ hybrid coatings by the development of TiO₂-Al₂O₃ bilayer film coatings**
Eraslan F. S., GECÜ R.
Ceramics International, vol.50, no.15, pp.26715-26726, 2024 (SCI-Expanded)
- V. **Effects of Ti addition and wall thickness on microstructure, hardness, and wear properties of spheroidal graphite cast irons**
Kaymak K., Tazegül Y., Keyvanklı A. B., GECÜ R.
Tribology International, vol.195, 2024 (SCI-Expanded)
- VI. **Microstructural, hardness, and wear properties of Mg₂Si-reinforced Al matrix in-situ composites produced by low superheat casting**
Ozkan T., Tutuk I., ACAR S., GECÜ R., GÜLER K. A.
Materials Today Communications, vol.38, 2024 (SCI-Expanded)
- VII. **Enhancing wear resistance of R220 rail steels by quenching and partitioning (Q&P) treatment**
GECÜ R.
Materials Letters, vol.354, 2024 (SCI-Expanded)
- VIII. **Wear and corrosion behavior of vanadium-alloyed nodular cast irons fabricated by sand-casting**
TÜRÜ İ. C., GECÜ R.
Wear, vol.534-535, 2023 (SCI-Expanded)
- IX. **Chemical composition optimization of Al₂O₃-TiO₂ composite coatings for enhanced wear and corrosion resistance**
Eraslan F. S., Gecü R.
Surface and Coatings Technology, vol.474, 2023 (SCI-Expanded)
- X. **Influence of layer number and sintering temperature on microstructural, tribological, and corrosion behavior of Al₂O₃-TiO₂ multilayer coatings**
Eraslan F. S., TÜRÜ İ. C., ÖZCAN M., BİROL B., GECÜ R.
Ceramics International, vol.49, no.20, pp.33226-33235, 2023 (SCI-Expanded)
- XI. **Influence of vanadium content and cooling rate on the characteristics of vanadium-alloyed spheroidal graphite cast irons**
Kandemir A. S., GECÜ R.
Journal of Alloys and Compounds, vol.934, 2023 (SCI-Expanded)
- XII. **Combined effects of cryogenic treatment and tempering on microstructural and tribological features of AISI H13 steel**
GECÜ R.
MATERIALS CHEMISTRY AND PHYSICS, vol.292, 2022 (SCI-Expanded)
- XIII. **Improving wear and corrosion protection of AISI 304 stainless steel by Al₂O₃-TiO₂ hybrid coating via sol-gel process**
Gecü R., Birol B., Özcan M.
TRANSACTIONS OF THE INSTITUTE OF METAL FINISHING, vol.100, no.6, pp.324-332, 2022 (SCI-Expanded)
- XIV. **Microstructure, Mechanical, and Wear Properties of Al-Alloyed Austempered Ductile Irons**

- GECÜ R.
TRIBOLOGY TRANSACTIONS, vol.65, no.5, pp.952-962, 2022 (SCI-Expanded)
- XV. **Volume fraction effect of stainless steel on microstructure, interface, corrosion and wear behavior of stainless steel / aluminum bimetal composites**
GECÜ R., KARAASLAN A.
Materials Chemistry and Physics, vol.284, 2022 (SCI-Expanded)
- XVI. **Surface characteristics of plasma electrolytic oxidation coatings on Cp-Ti and hot-dip aluminised Cp-Ti**
Celtik C., Yurekturk Y., GECÜ R., Kaboglu C., Muhaffel F.
TRANSACTIONS OF THE INSTITUTE OF METAL FINISHING, vol.100, pp.159-165, 2022 (SCI-Expanded)
- XVII. **Microstructural, mechanical and tribological characterization of aluminum-alloyed ductile cast irons based on aluminum content**
Sandikoglu A., Gecü R.
Journal of Alloys and Compounds, vol.879, 2021 (SCI-Expanded)
- XVIII. **Microstructure, wear and corrosion characteristics of multiple-reinforced (SiC-B4C-Al2O3) Al matrix composites produced by liquid metal infiltration**
Öztürk K., Gecü R., Karaaslan A.
CERAMICS INTERNATIONAL, vol.47, no.13, pp.18274-18285, 2021 (SCI-Expanded)
- XIX. **Casting temperature dependent wear and corrosion behavior of 304 stainless steel reinforced A356 aluminium matrix bimetal composites fabricated by vacuum-assisted melt infiltration casting**
Gecü R., Karaaslan A.
WEAR, vol.446, 2020 (SCI-Expanded)
- XX. **Sliding Wear of the Ti-Reinforced Al Matrix Bi-metal Composite: A Potential Replacement to Conventional SiC-Reinforced Composites for Automotive Application**
GECÜ R., KARAASLAN A.
INTERNATIONAL JOURNAL OF METALCASTING, vol.13, no.3, pp.641-652, 2019 (SCI-Expanded)
- XXI. **Improving wear resistance of 304 stainless steel reinforced AA7075 aluminum matrix composite by micro-arc oxidation**
GECÜ R., Yurekturk Y., Tekoglu E., Muhaffel F., KARAASLAN A.
SURFACE & COATINGS TECHNOLOGY, vol.368, pp.15-24, 2019 (SCI-Expanded)
- XXII. **The effect of retrogression and re-aging treatment on mechanical and tribological features of AA7075 aluminium alloy**
Einfluss der Retrogressions- und Reaging-Behandlung auf die mechanischen und tribologischen Eigenschaften der Aluminiumlegierung AA7075
Ozer G., GECÜ R., KARAASLAN A.
MATERIALWISSENSCHAFT UND WERKSTOFFTECHNIK, vol.50, no.6, pp.761-768, 2019 (SCI-Expanded)
- XXIII. **A Comparative Study on Titanium-Reinforced Aluminium Matrix Composites Produced by Melt Infiltration Casting and Squeeze Infiltration**
GECÜ R., KARAASLAN A.
INTERNATIONAL JOURNAL OF METALCASTING, vol.13, no.2, pp.311-319, 2019 (SCI-Expanded)
- XXIV. **Microstructural and Tribological Characterization of Stainless Steel-Reinforced Aluminum Matrix Bimetal Composites Produced at Various Mold Burnout Temperatures**
GECÜ R., KARAASLAN A.
TRIBOLOGY TRANSACTIONS, vol.62, no.2, pp.249-261, 2019 (SCI-Expanded)
- XXV. **Volume Fraction Dependent Wear Behavior of Titanium-Reinforced Aluminum Matrix Composites Manufactured by Melt Infiltration Casting**
GECÜ R., KARAASLAN A.
JOURNAL OF TRIBOLOGY-TRANSACTIONS OF THE ASME, vol.141, no.2, 2019 (SCI-Expanded)
- XXVI. **Preform-Based Production of Al2O3-Reinforced Aluminium Matrix Composites by Using Various Modification Techniques**
Öztürk K., Gecü R., Karaaslan A.
Metals and Materials International, 2019 (SCI-Expanded)

- XXVII. **A Study on Al/Cu Bimetal Production by Lost Foam Casting**
ACAR S., GECÜ R., KISASÖZ A., GÜLER K. A., KARAASLAN A.
PRAKTISCHE METALLOGRAPHIE-PRACTICAL METALLOGRAPHY, vol.55, no.11, pp.728-740, 2018 (SCI-Expanded)
- XXVIII. **Influence of T6 heat treatment on A356 and A380 aluminium alloys manufactured by thixoforging combined with low superheat casting**
GECÜ R., ACAR S., KISASÖZ A., ALTUG GULER K. A., KARAASLAN A.
Transactions of Nonferrous Metals Society of China (English Edition), vol.28, no.3, pp.385-392, 2018 (SCI-Expanded)
- XXIX. **Relationship Between Nanoindentation and Wear Properties of Stainless Steel-Reinforced Aluminium Matrix Composite**
GECÜ R., KARAASLAN A.
TRIBOLOGY LETTERS, vol.65, no.4, 2017 (SCI-Expanded)
- XXX. **Influence of preform preheating on dry sliding wear behavior of 304 stainless steel reinforced A356 aluminum matrix composite produced by melt infiltration casting**
GECÜ R., ATAPEK Ş. H., KARAASLAN A.
TRIBOLOGY INTERNATIONAL, vol.115, pp.608-618, 2017 (SCI-Expanded)
- XXXI. **Investigation of spherisation in microstructures of aluminium casting alloys for thixoforging process**
GÜLER K. A., GECÜ R., KISASÖZ A., KARAASLAN A.
RUSSIAN JOURNAL OF NON-FERROUS METALS, vol.58, no.5, pp.489-494, 2017 (SCI-Expanded)
- XXXII. **A Comparative Study on the Microstructure Evaluation of Thixoforged A356 and A380 Aluminium Alloys**
GÜLER K. A., GECÜ R., KISASÖZ A., KARAASLAN A.
PRAKTISCHE METALLOGRAPHIE-PRACTICAL METALLOGRAPHY, vol.54, no.3, pp.163-177, 2017 (SCI-Expanded)

Articles Published in Other Journals

- I. **Determination of Temperature Gradient in TIG Welding of Duplex Stainless Steel**
KISASÖZ A., GECÜ R., KARAASLAN A.
El-Cezerî Journal of Science and Engineering, vol.4, pp.593-597, 2017 (Scopus)
- II. **Bimetal ve Geleneksel Olarak Üretilen Alüminyum Esaslı Metal-Metal Kompozitlerin Mekanik Özellikleri**
Gecü R.
Metalurji, no.180, pp.26-30, 2016 (Non Peer-Reviewed Journal)

Refereed Congress / Symposium Publications in Proceedings

- I. **Investigation And Characterization Of Duplex Stainless Steel Production By Mechanical Alloying Method**
Örücü S., Birol B., Gecü R.
International Marmara Sciences Congress (Imascon Autumn) 2022, Kocaeli, Turkey, 9 - 10 December 2022, pp.25
- II. **Influence of Heat Treatment of 1.4462 and 1.4501 Duplex Stainless Steels on Microstructure and Wear Resistance**
YALÇINER G., GECÜ R., KISASÖZ A., KARAASLAN A.
20th International Metallurgy and Materials Congress, İstanbul, Turkey, 10 - 12 June 2021, pp.316
- III. **Prevention of Hot Crack Formation in 304 Stainless Steel Reinforced AA7075 Aluminium Matrix Bimetal Composites**
Gecü R., Karaaslan A.
9th International Aluminium Symposium, İstanbul, Turkey, 10 - 11 October 2019, pp.34-38

- IV. **A Study on the Effects of Solution Heat Treatment Time on Eutectic Silicon Morphology for A380 Alloy**
ACAR S., GECÜ R., KISASÖZ A., GÜLER K. A., KARAASLAN A.
19th International Metallurgy and Materials Congress, İstanbul, Turkey, 25 - 27 October 2018, pp.304-306
- V. **Sliding Wear Characteristics of AISI 2205 Duplex Stainless Steel Cooled in Various Environments after Solution Treatment**
GECÜ R., KISASÖZ A., KARAASLAN A.
19th International Metallurgy and Materials Congress, İstanbul, Turkey, 25 October 2018, pp.837-840
- VI. **The impact of volume fraction of commercially pure titanium reinforcement on aluminium matrix bimetal composite properties**
GENÇER K., GECÜ R., KARAASLAN A.
19th International Metallurgy and Materials Congress, İstanbul, Turkey, 25 October 2018, pp.148-151
- VII. **TRIBOLOGICAL CHARACTERIZATION OF 304 STAINLESS STEEL REINFORCED AA7075 ALUMINIUM MATRIX COMPOSITE PRODUCED BY MELT INFILTRATION CASTING**
GECÜ R., KARAASLAN A.
2nd International Conference on Tribology, İstanbul, Turkey, 18 April 2018, pp.36-41
- VIII. **Investigation of the Effects of Solution Heat Treatment Time on the Eutectic Silicon for A356 Alloy**
ACAR S., GECÜ R., KISASÖZ A., GÜLER K. A., KARAASLAN A.
2. International Conference on Engineering Technology and Innovation (ICETI), Budapeşte, Hungary, 07 March 2018, pp.268-272
- IX. **Dry Sliding Wear Properties of AA7075 Aluminium Matrix Hybrid Composites**
GECÜ R., ACAR S., KISASÖZ A., GÜLER K. A., KARAASLAN A.
2. International Conference on Engineering Technology and Innovation (ICETI), Budapeşte, Hungary, 07 March 2018, pp.295-300
- X. **The Effect of Preform Preheating on Microstructural and Mechanical Features of 80% CP-Ti Reinforced A356 Matrix Composite**
GECÜ R., KARAASLAN A.
International Conference on Engineering Technology and Innovation (ICETI), Budapeşte, Hungary, 07 March 2018, pp.163-169
- XI. **Aging of A356 Aluminum Billets Produced by Semi-Solid Metal Processing**
GECÜ R., ACAR S., KISASÖZ A., GÜLER K. A., KARAASLAN A.
3rd International Iron & Steel Symposium, Karabük, Turkey, 03 April 2017, pp.267-270
- XII. **Production of CP-Ti Reinforced A356 Aluminum Composite by Vacuum-Assisted Investment Casting**
GECÜ R., KARAASLAN A.
International Conference on Engineering Technology and Innovation, Saraybosna, Bosnia And Herzegovina, 22 March 2017, pp.210-214
- XIII. **Microstructural Evaluation of T6-Treated A380 Alloy Manufactured by Semi-Solid Metal Casting**
GECÜ R., ACAR S., KISASÖZ A., GÜLER K. A., KARAASLAN A.
International Conference on Engineering Technology and Innovation, Sarajevo, Bosnia And Herzegovina, 22 March 2017, pp.284-288
- XIV. **Manufacturing and Aging of 7075 Based Metal-Metal Composites by Using Sawdusts as Reinforcements**
GECÜ R., KISASÖZ A., GÜLER K. A., KARAASLAN A.
18th International Metallurgy & Materials Congress, İstanbul, Turkey, 29 September 2016, pp.114-117
- XV. **An Investigation of the Effect of Solution Heat Treatment on 475 °C Embrittlement in 1.4462 Duplex Stainless Steels**
GECÜ R., KISASÖZ A., KARAASLAN A.
18th International Metallurgy & Materials Congress, İstanbul, Turkey, 29 September 2016, pp.501-503
- XVI. **The Effect of Intermetallic Phases on Corrosion Behaviour of Duplex Stainless Steels**
ZORBA A. P., ÖZYILMAZ A. Ö., GECÜ R., KISASÖZ A., KARAASLAN A.
18th International Metallurgy & Materials Congress, İstanbul, Turkey, 29 September 2016, pp.836-839

Supported Projects

- I. GECÜ R., Project Supported by Higher Education Institutions, Sıfırlı İşlem Görmüş AISI H13 Sıcak İş Takım Çeliklerinde Temperlemenin Mikroyapı ve Aşınma Davranışına Etkisinin İncelenmesi, 2022 - 2023
- II. KARAASLAN A., GECÜ R., Project Supported by Higher Education Institutions, Bimetal Kompozitlerin Metal Talaşlarıyla Üretimi ve Karakterizasyonu, 2017 - 2019
- III. KISASÖZ A., ACAR S., GECÜ R., KARAASLAN A., GÜLER K. A., Project Supported by Higher Education Institutions, Isıya Dayanıklı 2.4879 Alaşımının Yüksek Sıcaklık Uygulamalarındaki Özellik Değişimlerinin Belirlenmesi, 2017 - 2019
- IV. KARAASLAN A., ACAR S., GECÜ R., KISASÖZ A., GÜLER K. A., Project Supported by Higher Education Institutions, Geri Dönüştürülebilir Metal Takviyeler Kullanılarak Üretilen Alüminyum Matrisli Metal-Metal Kompozitlerin Aşınma Özelliklerinin Belirlenmesi, 2017 - 2019
- V. KARAASLAN A., ACAR S., KISASÖZ A., GECÜ R., GÜLER K. A., Project Supported by Higher Education Institutions, Çift Fazlı Paslanmaz Çelikte Ferrit-Östenit Faz Dengesinin 475 °C Kırılma Üzerindeki Etkisinin İncelenmesi, 2017 - 2019

Scientific Refereeing

- I. TRIBOLOGY INTERNATIONAL, SCI Journal, March 2020
- II. INTERNATIONAL JOURNAL OF METALCASTING, SCI Journal, February 2019
- III. MATERIALS EXPRESS, SCI Journal, August 2018
- IV. INTERNATIONAL JOURNAL OF METALCASTING, SCI Journal, June 2018
- V. TRIBOLOGY LETTERS, SCI Journal, September 2017

Metrics

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Coaching Duties

Refereeing Duties
