

Prof. Hüseyin Kızıl

Personal Information

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International Researcher IDs

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Publons / Web Of Science ResearcherID: R-6173-2019

ScopusID: 6507538441

Yoksis Researcher ID: 111867

Education Information

Doctorate, Rensselaer Polytechnic Institute, School of Engineering, Materials Science and Engineering, United States Of America 1995 - 2002

Postgraduate, Rensselaer Polytechnic Institute, School of Engineering, Mechanical Engineering, United States Of America 1993 - 1995

Undergraduate, Istanbul Technical University, Makine Fakültesi, Makine Mühendisliği Bölümü, Turkey 1988 - 1992

Foreign Languages

English

Research Areas

Bioengineering and MEMS, Semiconducting Materials and Devices, Material science and engineering, Biomaterials, Plating, Nanomaterials

Academic Titles / Tasks

Professor, Istanbul Technical University, Kimya-Metalurji, Metalurji Ve Malzeme Mühendisliği, 2019 - Continues

Associate Professor, Istanbul Technical University, Metalurji Ve Malzeme Mühendisliği Bölümü, 2012 - 2019

Assistant Professor, Istanbul Technical University, Kimya-Metalurji Fakültesi, Metalurji Ve Malzeme Mühendisliği Bölümü, 2005 - 2012

Research Assistant, Rensselaer Polytechnic Institute, Mühendislik, Malzeme Bilimi Ve Müh., 1997 - 2002

Academic and Administrative Experience

Vice Rector, Istanbul Technical University, Kimya-Metalurji, Metalurji Ve Malzeme Mühendisliği, 2020 - 2021

Program Koordinatörü, Istanbul Technical University, Kimya-Metalurji, UOLP Bioengineering Program, 2012 - 2016

Rector's Advisor, Istanbul Technical University, Kimya-Metalurji, Metalurji Ve Malzeme Mühendisliği, 2012 - 2016

Anabilim Dalı Akademik Kurul Üyesi, Istanbul Technical University, Kimya-Metalurji, Metalurji Ve Malzeme Mühendisliği, 2012 - 2016

BAP Coordinator, Istanbul Technical University, Kimya-Metalurji, Metalurji Ve Malzeme Mühendisliği, 2010 - 2011

Published journal articles indexed by SCI, SSCI, and AHCI

- I. **Performance enhancement of Li -S battery with the anatase nano structured Fe doped TiO₂ as a robust interlayer**
Eroglu O., Kiai M. S., Kızıl H.
JOURNAL OF ALLOYS AND COMPOUNDS, vol.838, 2020 (SCI-Expanded)
- II. **Glass fiber separator coated by boron doped anatase TiO₂ for high-rate Li-S battery**
Eroglu O., Kiai M. S., Kızıl H.
MATERIALS RESEARCH BULLETIN, vol.129, 2020 (SCI-Expanded)
- III. **Gold-on-glass microwave split-ring resonators with PDMS microchannels for differential measurement in microfluidic sensing**
Camli B., Altinagac E., Kızıl H., Torun H., Dundar G., Yalcinkaya A. D.
BIOMICROFLUIDICS, vol.14, no.5, 2020 (SCI-Expanded)
- IV. **Electrospun nanofiber polyacrylonitrile coated separators to suppress the shuttle effect for long-life lithium-sulfur battery**
Kiai M. S., Eroglu O., Kızıl H.
JOURNAL OF APPLIED POLYMER SCIENCE, vol.137, no.17, 2020 (SCI-Expanded)
- V. **Simultaneous analysis of Pb²⁺ and Cd²⁺ at graphene/bismuth nanocomposite film-modified pencil graphite electrode using square wave anodic stripping voltammetry**
Kilic H. D., Kızıl H.
ANALYTICAL AND BIOANALYTICAL CHEMISTRY, vol.411, no.30, pp.8113-8121, 2019 (SCI-Expanded)
- VI. **Enhanced performance of Li-S battery with polymer doped potassium functionalized graphene interlayers as effective polysulfide barrier**
Kiai M. S., Kızıl H.
JOURNAL OF ELECTROANALYTICAL CHEMISTRY, vol.851, 2019 (SCI-Expanded)
- VII. **Polycarboxylate Functionalized Graphene/S Composite Cathodes and Modified Cathode-Facing Side Coated Separators for Advanced Lithium-Sulfur Batteries**
Kiai M. S., Eroglu O., Kızıl H.
NANOSCALE RESEARCH LETTERS, vol.14, 2019 (SCI-Expanded)
- VIII. **Lactate detection by colorimetric measurement in real human sweat by microfluidic-based biosensor on flexible substrate**
Kusbaz A., Göcek İ., Baysal G., Kök F. N., Trabzon L., Kızıl H., Karagüzel Kayaoğlu B.
JOURNAL OF THE TEXTILE INSTITUTE, vol.110, pp.1725-1732, 2019 (SCI-Expanded)
- IX. **Functionalized Double Side Coated Separator for Lithium-Sulfur Batteries with Enhanced Cycle Life**
Kiai M. S., Kızıl H.
JOURNAL OF THE ELECTROCHEMICAL SOCIETY, vol.165, 2018 (SCI-Expanded)
- X. **Biological particle manipulation: an example of Jurkat enrichment**
Altinagac E., Kızıl H., Trabzon L.
MICRO & NANO LETTERS, vol.10, pp.550-553, 2015 (SCI-Expanded)
- XI. **Flexible binder-free silicon/silica/carbon nanofiber composites as anode for lithium-ion batteries**
Dirican M., Yildiz O., Lu Y., Fang X., Jiang H., Kızıl H., Zhang X.
ELECTROCHIMICA ACTA, vol.169, pp.52-60, 2015 (SCI-Expanded)
- XII. **The 25th MicroMechanics Europe Workshop**
Kızıl H.
JOURNAL OF MICROMECHANICS AND MICROENGINEERING, vol.25, 2015 (SCI-Expanded)
- XIII. **Design and fabrication of a new nonwoven-textile based platform for biosensor construction**

- Baysal G., Onder S., Gocek İ., Trabzon L., Kızıl H., Kok F. N., Kayaoglu B.
SENSORS AND ACTUATORS B-CHEMICAL, vol.208, pp.475-484, 2015 (SCI-Expanded)
- XIV. **SiO₂-confined silicon/carbon nanofiber composites as an anode for lithium-ion batteries**
Dirican M., Lu Y., Fu K., Kızıl H., Zhang X.
RSC ADVANCES, vol.5, pp.34744-34751, 2015 (SCI-Expanded)
- XV. **Carbon-enhanced electrodeposited SnO₂/carbon nanofiber composites as anode for lithium-ion batteries**
Dirican M., Yanilmaz M., Fu K., Lu Y., Kızıl H., Zhang X.
JOURNAL OF POWER SOURCES, vol.264, pp.240-247, 2014 (SCI-Expanded)
- XVI. **Microfluidic device on a nonwoven fabric: A potential biosensor for lactate detection**
Baysal G., Onder S., Gocek İ., Trabzon L., Kızıl H., Kok F. N., Kayaoglu B.
TEXTILE RESEARCH JOURNAL, vol.84, pp.1729-1741, 2014 (SCI-Expanded)
- XVII. **EXPERIMENTAL INVESTIGATION OF AN ELECTROSPRAY INJECTOR**
Karakaya M. C., Abdullahoglu R., Tunçer O., Kızıl H., Trabzon L.
ISI BILIMI VE TEKNIGI DERGISI-JOURNAL OF THERMAL SCIENCE AND TECHNOLOGY, vol.34, pp.63-76, 2014 (SCI-Expanded)
- XVIII. **Carbon-Confined PVA-Derived Silicon/Silica/Carbon Nanofiber Composites as Anode for Lithium-Ion Batteries**
Dirican M., Yanilmaz M., Fu K., Yildiz O., Kızıl H., Hu Y., Zhang X.
JOURNAL OF THE ELECTROCHEMICAL SOCIETY, vol.161, 2014 (SCI-Expanded)
- XIX. **Predicting the extent of hydrophilicity on Si nano-column surfaces**
Can M. F., Guvendik S., Benli B., Trabzon L., Kızıl H., Çelik M. S.
MATERIALWISSENSCHAFT UND WERKSTOFFTECHNIK, vol.43, pp.366-372, 2012 (SCI-Expanded)
- XX. **Titanium micromachining by femtosecond laser**
Kara V., Kızıl H.
OPTICS AND LASERS IN ENGINEERING, vol.50, pp.140-147, 2012 (SCI-Expanded)
- XXI. **Fabrication and Characterization of Si Nano-columns by Femtosecond Laser**
Ghalehbeygi O. T., Kara V., Trabzon L., Akturk S., Kızıl H.
JOURNAL OF NANO RESEARCH, vol.16, pp.15-20, 2011 (SCI-Expanded)
- XXII. **Effect of R600a on tribological behavior of sintered steel under starved lubrication**
Sarıbrahimoglu K., Kızıl H., Aksit M. F., Efeoğlu İ., Kerpıccı H.
TRIBOLOGY INTERNATIONAL, vol.43, pp.1054-1058, 2010 (SCI-Expanded)
- XXIII. **TiN, TaN and WxN as diffusion barriers for Cu on SiO₂: capacitance-voltage, leakage current, and triangular-voltage-sweep tests after bias temperature stress**
Kızıl H., Steinbruchel C.
THIN SOLID FILMS, vol.449, pp.158-165, 2004 (SCI-Expanded)
- XXIV. **TiN and TaN diffusion barriers in copper interconnect technology: Towards a consistent testing methodology**
Kızıl H., Kim G., Steinbruchel C., Zhao B.
JOURNAL OF ELECTRONIC MATERIALS, vol.30, pp.345-348, 2001 (SCI-Expanded)

Books & Book Chapters

- I. **Dynamic and Quasi-Static Simulation of a Novel Compliant MEMS Force Amplifier by Matlab/Simulink**
Kızıl H.
in: MATLAB – A Fundamental Tool for Scientific Computing and Engineering Applications – Volume 1, N. Vasilios, Editor, Intechopen, Rijeka, pp.89-110, 2012

Supported Projects

- Kızıl H., Ölmez K., Project Supported by Higher Education Institutions, Mikroakışkan sistemde empedans tabanlı bakteri algılaması, 2017 - 2018
- Kızıl H., Project Supported by Higher Education Institutions, Centrifugally Spun Silicon/Carbon Nanofiber Composites As Anode For Lithium-Ion Batteries, 2015 - 2018
- Kızıl H., Trabzon L., TUBITAK Project, Mikroakışkan Sistemler Kullanılarak Mekanik Kuvvetlerin Endotel Hücre Davranışı Üzerine Etkilerinin Mekanobiyolojik Odağında İncelenmesi, 2014 - 2017
- Kızıl H., Akşit M. F., TUBITAK Project, Milli Rüzgar Enerji Sistemleri Geliştirilmesi ve Prototip Türbin Üretimi MİLRES, 2011 - 2014
- Kızıl H., Project Supported by Higher Education Institutions, Esnek Mikroelektronik Uygulamaları İçin Polimer Alt Malzemeye Elektroliz Yoluyla Cu ve Au Kaplaması, 2009 - 2014
- Kızıl H., Project Supported by Higher Education Institutions, Esnek MEMS Uygulamaları için Polimer Alt Malzemelere Elektroliz Yoluyla Metal Kaplanması, 2011 - 2012
- Kızıl H., Industrial Thesis Project, Yeni nesil bir silecek ürününün geliştirilmesi ve silme performansının değerlendirilebilmesi için test düzeneğinin oluşturulması, 2010 - 2011
- Kızıl H., Akşit M. F., TUBITAK Project, Hermetik Kompresörler İçin İleri Yatak Malzemeleri Geliştirilmesi Yağ Miktarı ve Mekanik Kayıpların Azaltılması, 2006 - 2009

Patent

- Kızıl H., Kanserli Hücre Ayırıştırma, Yakalama Ve İlaç Tarama Testleri İçin Mikroakışkan Sistemi, Patent, CHAPTER B Implementation of Operations; Transport, The Invention Registration Number: 2017/12622 , Standard Registration, 2021
- Kızıl H., Bir biyolojik damar ve üretim yöntemi., Patent, CHAPTER B Implementation of Operations; Transport, The Invention Registration Number: TR 2014 02431 A , 2018
- Kızıl H., Microfluidic System For Cancer Cell Separation, Capturing And Drug Screening Assays, Patent, CHAPTER B Implementation of Operations; Transport, The Invention Recourse Number: PCT/TR2018/050436 , 2018
- Kızıl H., A Silica/Carbon Nanofiber Composite Nonwoven Surface, Patent, CHAPTER B Implementation of Operations; Transport, The Invention Recourse Number: PCT/TR2017/050285 , Standard Registration, 2017
- Kızıl H., Dokunmamış tekstil yüzeyi tabanlı bir mikroakışkan aygıt ve üretim yöntemi., Patent, CHAPTER A Human Needs, The Invention Registration Number: TR 2013 12278 A2 , 2016
- Kızıl H., Brush Seal for Static Turbine Components, Patent, CHAPTER F Mechanical engineering; Lighting; Heating; Weaponry; Destroyed Materials, The Invention Registration Number: US6951339 B2 , Triadic Registration, 2005

Activities in Scientific Journals

Committee Member, 2016 - 2020

Metrics

Publication: 67
Citation (WoS): 507
Citation (Scopus): 541
H-Index (WoS): 13
H-Index (Scopus): 15

Awards

Kızıl H., Teknoloji Ödülü, Eiginkan Vakfı, December 2012

Non Academic Experience

General Electric Global Research Center