

Asst. Prof. FARUK DİRİSAĞLIK

Personal Information

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International Researcher IDs

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ScopusID: 35435027800

Yoksis Researcher ID: 227122

Education Information

Doctorate, University of Connecticut, Elektrik Mühendisliği, Elektrik Mühendisliği, United States Of America 2009 - 2014
Postgraduate, Anadolu University, Institute Of Educational Sciences, Bilgisayar Ve Öğretim Teknolojileri Öğretmenliği (YI) (Tezli), Turkey 2003 - 2007
Undergraduate, Sakarya University, Faculty Of Technical Education, Department Of Electronics And Computer Education, Turkey 1998 - 2002

Dissertations

Doctorate, High-Temperature Electrical Characterization of Ge₂Sb₂Te₅ Phase Change Memory Devices, University of Connecticut, Elektrik Mühendisliği, 2014

Postgraduate, Bilgisayar formatör öğretmenlerinin bilgi teknolojisi sınıflarına ilişkin görüşleri: Eskişehir ili örneği, Anadolu University, Eğitim Bilimleri Enstitüsü, Bilgisayar Ve Öğretim Teknolojileri Öğretmenliği (YI) (Tezli), 2007

Research Areas

Memory and Storage, Integrated Circuits, Electrical and Electronics Engineering, Electronic, Printed Circuits, Thin Film, Thick Film and Hybrid ICs, Sensing Devices and Transducers, Electronic Circuits, Nanotechnology, Optics and Photonics, Dielectric Materials and Devices, Optical Materials and Devices, Optoelectronic Materials and Devices, Semiconducting Materials and Devices, Semiconductor and Superconductor Materials, Optical Properties, Electrical and Magnetic Properties, Plating, Material Characterization, Nanomaterials, Thermal Properties

Academic Titles / Tasks

Assistant Professor, Eskişehir Osmangazi University, MÜHENDİSLİK-MİMARLIK FAKÜLTESİ, ELEKTRİK-ELEKTRONİK MÜHENDİSLİĞİ BÖLÜMÜ, 2016 - Continues

Research Assistant, Suleyman Demirel University, Mühendislik Fakültesi, Elektrik-Elektronik Mühendisliği Bölümü, 2015 - 2016

Research Assistant, University of Connecticut, Electrical Engineering, 2009 - 2014

Lecturer, Bilecik Seyh Edebali University, Vocational School, Department Of Electronics And Automation, 2007 - 2008

Lecturer, Anadolu University, Bilecik Vocational School, 2002 - 2007

Courses

ELECTRICAL ENGINEERING DESIGN(H), Undergraduate, 2021 - 2022, 2020 - 2021, 2019 - 2020, 2018 - 2019, 2017 - 2018, 2016 - 2017
ELECTRONICS I, Undergraduate, 2021 - 2022, 2020 - 2021, 2019 - 2020, 2018 - 2019, 2017 - 2018, 2016 - 2017
ELECTRICAL ENGINEERING DESIGN(H), Undergraduate, 2021 - 2022, 2020 - 2021, 2019 - 2020, 2018 - 2019, 2017 - 2018, 2016 - 2017
SEMICONDUCTOR DEVICES, Undergraduate, 2021 - 2022, 2020 - 2021, 2019 - 2020, 2018 - 2019, 2017 - 2018, 2016 - 2017
ELECTRONICS LABORATORY, Undergraduate, 2021 - 2022, 2020 - 2021, 2019 - 2020, 2018 - 2019, 2017 - 2018, 2016 - 2017
ELECTRONICS LABORATORY, Undergraduate, 2021 - 2022, 2020 - 2021, 2019 - 2020, 2018 - 2019, 2016 - 2017
MEMORY DEVICES AND TECHNOLOGIES, Postgraduate, 2021 - 2022, 2020 - 2021, 2019 - 2020, 2018 - 2019, 2016 - 2017
ELECTRONICS II, Undergraduate, 2020 - 2021, 2019 - 2020, 2018 - 2019, 2017 - 2018, 2016 - 2017, 2015 - 2016
ELECTRONICS II, Undergraduate, 2020 - 2021, 2019 - 2020, 2018 - 2019, 2017 - 2018, 2016 - 2017, 2015 - 2016
ELECTRONICS I, Undergraduate, 2021 - 2022, 2020 - 2021, 2019 - 2020, 2018 - 2019, 2017 - 2018, 2016 - 2017
SEMICONDUCTOR DEVICE FABRICATION AND CHARACTERIZATION, Postgraduate, 2020 - 2021, 2019 - 2020, 2018 - 2019, 2017 - 2018
YÜKSEK LİSANS TEZ ÇALIŞMASI(M), Postgraduate, 2020 - 2021
UZMANLIK ALAN DERSİ (YL)(M), Postgraduate, 2020 - 2021
COMMUNICATIONS LABORATORY, Undergraduate, 2019 - 2020
DIGITAL SYSTEMS LAB., Undergraduate, 2018 - 2019, 2015 - 2016
COMMUNICATIONS LABORATORY, Undergraduate, 2018 - 2019
MICROCOMPUTER LABORATORY, Undergraduate, 2018 - 2019, 2016 - 2017
CIRCUITS LABORATORY(E), Undergraduate, 2017 - 2018
CONTROL SYSTEMS LABORATORY, Undergraduate, 2016 - 2017, 2015 - 2016
DIGITAL SYSTEMS LAB., Undergraduate, 2015 - 2016
CIRCUITS LABORATORY(D), Undergraduate, 2016 - 2017

Jury Memberships

Doctoral Examination, Doctoral Examination, Eskişehir Teknik Üniversitesi, January, 2021
Post Graduate, Post Graduate, Eskişehir Teknik Üniversitesi, December, 2020
Post Graduate, Post Graduate, Eskişehir Osmangazi Üniversitesi, July, 2020
Doctoral Examination, Doctoral Examination, Eskişehir Teknik Üniversitesi, June, 2020
Post Graduate, Post Graduate, Eskişehir Teknik Üniversitesi, December, 2019
Post Graduate, Post Graduate, Eskişehir Teknik Üniversitesi, December, 2019
Doctorate, Doctorate, Eskişehir Teknik Üniversitesi, October, 2019
Doctorate, Doctorate, Eskişehir Teknik Üniversitesi, September, 2019
Doctorate, Doctorate, Eskişehir Teknik Üniversitesi, August, 2019
Post Graduate, Post Graduate, Eskişehir Teknik Üniversitesi, August, 2019
Post Graduate, Post Graduate, Eskişehir Teknik Üniversitesi, July, 2019
Doctorate, Doctorate, Eskişehir Teknik Üniversitesi, May, 2019
Post Graduate, Post Graduate, Eskişehir Teknik Üniversitesi, May, 2019
Appointment to Academic Staff-Assistant Professorship, Appointment Academic Staff, Eskişehir Osmangazi Üniversitesi, January, 2018

Published journal articles indexed by SCI, SSCI, and AHCI

- I. **Electronic transport in amorphous Ge₂Sb₂Te₅ phase-change memory line cells and its response to photoexcitation**
Talukder A., Kashem M., Hafiz M., Khan R., DİRİSAĞLIK F., Silva H., Gokirmak A.
Applied Physics Letters, vol.124, no.26, 2024 (SCI-Expanded)
- II. **Resistance Drift in Melt-Quenched Ge₂Sb₂Te₅ Phase Change Memory Line Cells at Cryogenic Temperatures**
Talukder A. B. M. H., Bin Kashem M. T., Khan R., DİRİSAĞLIK F., Gokirmak A., Silva H.
ECS Journal of Solid State Science and Technology, vol.13, no.2, 2024 (SCI-Expanded)
- III. **Temperature-Dependent Characteristics and Electrostatic Threshold Voltage Tuning of Accumulated Body MOSFETs**
Hasan Talukder A., Smith B., Akbulut M., DİRİSAĞLIK F., Silva H., Gokirmak A.
IEEE Transactions on Electron Devices, vol.69, no.8, pp.4138-4143, 2022 (SCI-Expanded)
- IV. **Reset Variability in Phase Change Memory for Hardware Security Applications**
Noor N., Muneer S., Khan R. S., Gorbenko A., Adnane L., Kashem M. T. B., Scoggin J., Dirisaglık F., Cywar A., Gokirmak A., et al.
IEEE TRANSACTIONS ON NANOTECHNOLOGY, vol.20, pp.75-82, 2021 (SCI-Expanded)
- V. **Resistance drift in Ge₂Sb₂Te₅ phase change memory line cells at low temperatures and its response to photoexcitation**
Khan R. S., Dirisaglık F., Gokirmak A., Silva H.
APPLIED PHYSICS LETTERS, vol.116, 2020 (SCI-Expanded)
- VI. **Activation energy of metastable amorphous Ge₂Sb₂Te₅ from room temperature to melt**
Muneer S., Scoggin J., Dirisaglık F., Adnane L., Cywar A., Bakan G., Cil K., Lam C., Silva H., Gokirmak A.
AIP ADVANCES, vol.8, no.6, 2018 (SCI-Expanded)
- VII. **Nanoscale Accumulated Body Si nMOSFETs**
Akbulut M. B., Dirisaglık F., Cywar A., Faraclas A., Pence D., Patel J., Steen S., Nunes R. W., Silva H., Gokirmak A.
IEEE TRANSACTIONS ON ELECTRON DEVICES, vol.65, no.4, pp.1283-1289, 2018 (SCI-Expanded)
- VIII. **High temperature electrical resistivity and Seebeck coefficient of Ge₂Sb₂Te₅ thin films**
Adnane L., Dirisaglık F., Cywar A., Cil K., Zhu Y., Lam C., Anwar A. F. M., Gokirmak A., Silva H.
JOURNAL OF APPLIED PHYSICS, vol.122, no.12, 2017 (SCI-Expanded)
- IX. **Extracting the temperature distribution on a phase-change memory cell during crystallization**
Bakan G., Gerislioglu B., Dirisaglık F., Jurado Z., Sullivan L., Dana A., Lam C., Gokirmak A., Silva H.
JOURNAL OF APPLIED PHYSICS, vol.120, no.16, 2016 (SCI-Expanded)
- X. **High speed, high temperature electrical characterization of phase change materials: metastable phases, crystallization dynamics, and resistance drift**
Dirisaglık F., Bakan G., Jurado Z., Muneer S., Akbulut M., Rarey J., Sullivan L., Wennberg M., King A., Zhang L., et al.
NANOSCALE, vol.7, no.40, pp.16625-16630, 2015 (SCI-Expanded)
- XI. **Modeling of Thermoelectric Effects in Phase Change Memory Cells**
Faraclas A., Bakan G., Adnane L., Dirisaglık F., Williams N. E., Gokirmak A., Silva H.
IEEE TRANSACTIONS ON ELECTRON DEVICES, vol.61, no.2, pp.372-378, 2014 (SCI-Expanded)
- XII. **Electrical Resistivity of Liquid Ge₂Sb₂Te₅ Based on Thin-Film and Nanoscale Device Measurements**
Cil K., Dirisaglık F., Adnane L., Wennberg M., King A., Faraclas A., Akbulut M. B., Zhu Y., Lam C., Gokirmak A., et al.
IEEE TRANSACTIONS ON ELECTRON DEVICES, vol.60, no.1, pp.433-437, 2013 (SCI-Expanded)
- XIII. **Crystallization of Silicon Microstructures Through Rapid Self-Heating for High-Performance Electronics on Arbitrary Substrates**
Silva H., Bakan G., Cywar A., Williams N., Dirisaglık F., Henry N., Gokirmak A.
NANOSCIENCE AND NANOTECHNOLOGY LETTERS, vol.4, no.10, pp.970-976, 2012 (SCI-Expanded)
- XIV. **Raman Enhancement on a Broadband Meta-Surface**
Ayas S., Guner H., Turker B., Ekiz O. O., Dirisaglık F., Okyay A. K., Dana A.
ACS NANO, vol.6, no.8, pp.6852-6861, 2012 (SCI-Expanded)

XV. Scaling of Silicon Phase-Change Oscillators

Cywar A., Dirisaglik F., Akbulut M., Bakan G., Steen S., Silva H., Gokirmak A.

IEEE ELECTRON DEVICE LETTERS, vol.32, no.11, pp.1486-1488, 2011 (SCI-Expanded)

Articles Published in Other Journals

I. Numerical Modeling of Thermoelectric Thomson Effect in Phase Change Memory Bridge Structures

DİRİSAĞLIK F., Bakan G., Faraclas A., Gokirmak A., Silva H.

International Journal of High Speed Electronics and Systems, vol.23, pp.1450004, 2014 (Scopus)

Refereed Congress / Symposium Publications in Proceedings

I. Calculation of the Energy Band Diagram and Estimation of Electronic Transport Parameters of Metastable Amorphous Ge₂Sb₂Te₅

Kashem M. T. B., Muneer S., Adnane L., DİRİSAĞLIK F., Gokirmak A., Silva H.

241st ECST Meeting, Vancouver, Canada, 29 May - 02 June 2022, vol.108, pp.29-36

Activities in Scientific Journals

ANADOLU UNIVERSITY JOURNAL OF SCIENCE AND TECHNOLOGY - A Applied Sciences and Engineering, Editor, 2021 - Continues

Scientific Refereeing

ELECTRONICS, SCI Journal, October 2021

ANADOLU UNIVERSITY JOURNAL OF SCIENCE AND TECHNOLOGY - A APPLIED SCIENCES AND ENGINEERING, National Scientific Refreed Journal, February 2020

ANADOLU UNIVERSITY JOURNAL OF SCIENCE AND TECHNOLOGY - A APPLIED SCIENCES AND ENGINEERING, National Scientific Refreed Journal, February 2020

INDIAN JOURNAL OF PHYSICS, SCI Journal, November 2019

INDIAN JOURNAL OF PHYSICS, SCI Journal, September 2019

Metrics

Publication: 79

Citation (WoS): 196

Citation (Scopus): 318

H-Index (WoS): 7

H-Index (Scopus): 8

Congress and Symposium Activities

1ST WORKSHOP ON TF-X INTEGRATED PROCESSING UNIT TECHNOLOGIES, Invited Speaker, Kocaeli, Turkey, 2018

Representation and Promotion Activities

Institutional Promotion, Tercihim ESOGU cevrimici meslek ve bolum tanitimi, Turkey, Eskişehir, 2020 - 2020

Non Academic Experience

IBM T. J. WATSON RESEARCH CENTER