Assoc. Prof. MUSTAFA DEMİRTAŞ

Personal Information

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International Researcher IDs
ScholarID: yVSOo-MAAAAJ
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Publons / Web Of Science ResearcherID: AAF-5942-2019
ScopusID: 56500184800
Yoksis Researcher ID: 58536

Education Information

Post Doctorate, Ohio State University, Wexner Medical Center, Institute for Behavioral Medicine Research, Biomedical Engineering, United States Of America 2021 - 2023
Post Doctorate, University of Notre Dame, College of Engineering, Electrical Engineering, United States Of America 2020 - 2021
Doctorate, Eskişehir Technical University, Faculty Of Engıneerıng, Department Of Electrıcal And Electronıcs Engıneerıng (Englısh), Turkey 2014 - 2019
Postgraduate, Anadolu University, Mühendislik - Mimarlık Fakültesi, Elektrik-Elektronik Mühendisliği Bölümü, Turkey 2011 - 2014

Dissertations

Doctorate, Rare-earth Ion Doped Dielectric Waveguide Amplifier Devices, Eskişehir Technical University, Faculty Of Engıneerıng, Department Of Electrıcal And Electronıcs Engıneerıng (Englısh), 2019
Postgraduate, Design and realization of ALD grown AL2O3 waveguides for applications in silicon based photonics, Anadolu University, Fen Bilimleri Enstitüsü, Elektrik-Elektronik Mühendisliği Anabilim Dalı, 2014

Research Areas

Biosignal Processing, Electrical and Electronics Engineering, Printed Circuits, Thin Film, Thick Film and Hybrid ICs, Nanotechnology, Optics and Photonics, Electromagnetic in Biology and Medicine, Dielectric Materials and Devices, Lasers and Masers, Magnetic Materials and Devices, Optical Materials and Devices, Optoelectronic Materials and Devices

Academic Titles / Tasks

Assistant Professor, Bursa Uludağ University, MÜHENDİSLİK FAKÜLTESİ, ELEKTRİK-ELEKTRONİK MÜHENDİSLİĞİ, 2023 - Continues
Lecturer, Ohio State University, College of Engineering, Biomedical Engineering, 2021 - 2023
Lecturer, University of Notre Dame, College of Engineering, Electrical Engineering, 2020 - 2021
Research Assistant, Eskişehir Technical University, Mühendislik Fakültesi, Elektrik-Elektronik Mühendisliği, 2018 - 2019

Research Assistant, Anadolu University, Mühendislik - Mimarlık Fakültesi, Elektrik-Elektronik Mühendisliği Bölümü, 2011 - 2018

Published journal articles indexed by SCI, SSCI, and AHCI

I. **Cardiac-Specific Deletion of Scn8a Mitigates Dravet Syndrome-Associated Sudden Death in Adults**
King D. R., Demirtaş M., Tarasov M., Veeraraghavan R., Radwański P.
JACC: CLINICAL ELECTROPHYSIOLOGY, vol.1, no.1, pp.1-14, 2024 (SCI-Expanded)

II. **Enhancing the sensitivity of nanopipette biosensors for protein analysis**
Demirtas M.
BRAIN AND BEHAVIOR, vol.14, no.2, pp.1-12, 2024 (SCI-Expanded)

III. **NaV1.6 dysregulation within myocardial T-tubules by D96V calmodulin enhances proarrhythmic sodium and calcium mishandling**
Tarasov M., Struckman H. L., Olgar Y., Miller A., Demirtaş M., Bogdanov V., Terentyeva R., Soltisz A. M., Meng X., Min D., et al.
JOURNAL OF CLINICAL INVESTIGATION, vol.1, pp.1-34, 2023 (SCI-Expanded)

IV. **Investigation of thermal annealing effects on MoO3 thin film by atomic layer deposition**
Demirtaş M.
Optical and Quantum Electronics, vol.53, no.2, 2021 (SCI-Expanded)

V. **MoS2 Phototransistor Sensitized by Colloidal Semiconductor Quantum Wells**
Sar H., Taghipour N., Lisheshar I. W., Delikanli S., Demirtaş M., Demir H. V., Ay F., Kosku Perkgöz N.
Advanced Optical Materials, vol.8, no.24, 2020 (SCI-Expanded)

VI. **High-Gain Er3+:Al2O3On-Chip Waveguide Amplifiers**
Demirtas M., Ay F.
IEEE Journal of Selected Topics in Quantum Electronics, vol.26, no.5, 2020 (SCI-Expanded)

VII. **Layer and size distribution control of CVD-grown 2D MoS2 using ALD-deposited MoO3 structures as the precursor**
Demirtaş M., Odacı C., Shehu Y., Perkgöz N. K., Ay F.
Materials Science in Semiconductor Processing, vol.108, 2020 (SCI-Expanded)

VIII. **A realistic approach for designing a single-mode Y-branch for weakly guiding material system using particle swarm algorithm**
Avad J., Demirtaş M., Kosku Perkgöz N., Ay F.
Optical and Quantum Electronics, vol.52, no.2, 2020 (SCI-Expanded)

IX. **Low Loss Atomic Layer Deposited Al2O3 Waveguides for Applications in On-Chip Optical Amplifiers**
Demirtas M., Odaci C., Perkgoz N. K., Sevik C., Ay F.
IEEE Journal of Selected Topics in Quantum Electronics, vol.24, no.4, 2018 (SCI-Expanded)

X. **Extensive mode mapping and novel polarization filter design for ALD grown Al2O3 ridge waveguides**
Demirtaş M., Özden A., Açikbaş E., Ay F.
Optical and Quantum Electronics, vol.48, no.7, 2016 (SCI-Expanded)

XI. **Polarization insensitive single mode Al2O3 rib waveguide design for applications in active and passive optical waveguides**
Özden A., Demirtaş M., Ay F.
Journal of the European Optical Society, vol.10, 2015 (SCI-Expanded)

Articles Published in Other Journals

I. **A Hybrid Algorithm for Adaptive Neuro-controllers**
DEMİRTAŞ M.
Black Sea Journal of Engineering and Science, vol.6, no.2, pp.87-97, 2023 (Peer-Reviewed Journal)

Refereed Congress / Symposium Publications in Proceedings

I. **Nanoscale remodeling of sodium channels in the cardiac transverse tubules contributes to Scn1a haploinsufficiency-associated sudden death in epilepsy (SUDEP)**
Demirtaş M.
Worldwide Sodium Channel Conference, Bern, Switzerland, 31 January - 02 February 2024, pp.1

II. **Controlled ALD doping of Er3+for active on-chip waveguide amplifiers based on Al2O3**
Demirtas M., Kosku Perkgöz N., Ay F.
Integrated Optics: Devices, Materials, and Technologies XXV 2021, Virtual, Online, United States Of America, 6 - 11 March 2021, vol.11689

III. **ALD Assisted 2D Monolayer Transition Metal Dichalcogenides and Their Applications in Optoelectronics**
Demirtas M., Odaci C., Shehu Y., Perkgoz N. K., Ay F.
2019 PhotonIcs and Electromagnetics Research Symposium - Spring, PIERS-Spring 2019, Rome, Italy, 17 - 20 June 2019, vol.2019-June, pp.3034-3037

IV. **PEALD Assisted CVD Growth method for 2D MoS2**
ODACI C., DEMİRTAŞ M., KOSKU PERKGÖZ N., AY F.
14th Nanoscience and Nanotechnology Congress, İzmir, Turkey, 22 October - 25 November 2018

V. **Growth and Characterization of MoO3 Thin Films by Plasma Enhanced ALD**
ODACI C., DEMİRTAŞ M., KOSKU PERKGÖZ N., AY F.
14th Nanoscience and Nanotechnology Congress, İzmir, Turkey, 22 October - 25 November 2018

VI. **PL and Raman Spectroscopic Investigation of Wetted 2D MoS2 Flakes Grown by CVD**
ODACI C., DEMİRTAŞ M., AY F., KOSKU PERKGÖZ N., BİRAN AY S.
14th Nanoscience and Nanotechnology Congress, İzmir, Turkey, 22 October 2018

VII. **Realization of Al2O3 Ridge Waveguides on a Silicon Chip**
DEMİRTAŞ M., KOSKU PERKGÖZ N., AY F.
14th Nanoscience and Nanotechnology Congress, İzmir, Turkey, 22 October - 25 November 2018

VIII. **Growth and Fabrication of Er-doped Al2O3 Channel Waveguide Amplifier Devices**
DEMİRTAŞ M., KOSKU PERKGÖZ N., AY F.
14th Nanoscience and Nanotechnology Congress, İzmir, Turkey, 22 October - 25 November 2018

IX. **Control of optical amplification process with extremely low background loss in Er:Al2O3 waveguides**
Demirtaš M., Odaci C., Kosku Perkgöz N., Sevik C., Ay F.
30th Annual Conference of the IEEE Photonics Society, IPC 2017, Florida, United States Of America, 1 - 05 October 2017, vol.2017-January, pp.561-562

X. **Er3 Doping Level Dependency of High Quality Active Layers**
DEMİRTAŞ M., KOSKU PERKGÖZ N., SEVİK C., AY F.
13th Nanoscience Nanotechnology Conference, 22 - 25 October 2017

XI. **Visible Photoluminescence Optimization of PEALD Grown Er3 Doped Al2O3 Layers**
DEMİRTAŞ M., KOSKU PERKGÖZ N., SEVİK C., AY F.
13th Nanoscience Nanotechnology Conference, 22 - 25 October 2017

XII. **Refractive Index Tuning of PEALD Grown Al2O3 for Optical Waveguide Amplifiers**
DEMİRTAŞ M., KOSKU PERKGÖZ N., SEVİK C., AY F.
13th Nanoscience Nanotechnology Conference, 22 - 25 October 2017

XIII. **Growth of 2D MoS2 Flakes on ALD Grown Al2O3 by using CVD**
ODACI C., DEMİRTAŞ M., KOSKU PERKGÖZ N., SEVİK C., AY F.
13th Nanoscience Nanotechnology Conference, 22 - 25 October 2017

XIV. **Optical Properties of Erbium Oxide Thin Films on Si by PEALD**
DEMİRTAŞ M., KOSKU PERKGÖZ N., SEVİK C., AY F.
13th Nanoscience Nanotechnology Conference, 22 - 25 October 2017

XV. **Low Loss ALD Grown Al2O3 Planar Waveguides**
DEMİRTAŞ M., AY F.

12th Nanoscience and Nanotechnology Conference, 3 - 05 June 2016

XVI. **A Systematic Approach to Determine Optimal Design Geometry for ALD grown Al2O3 Ridge Waveguide Amplifiers**
DEMİRTAŞ M., Ayberk Ö., AY F.
17. Ulusal Optik, Elektro-Optik ve Fotonik Çalıştayı, Turkey, 18 September 2015

XVII. **Modelling of Polarization and Wavelength Insensitive Single Mode Al2O3 Rib Waveguides for Active and Passive Applications**
DEMİRTAŞ M., Özden A., AY F.
Optical wave and waveguide theory and numerical modelling workshop OWTNW, Londrina, Brazil, 17 - 18 April 2015

XVIII. **Assessment of ALD Grown Al2O3 as a Host Material for Active and Passive Waveguide Applications**
DEMİRTAŞ M., Ayberk Ö., AY F.
16. Ulusal Optik, Elektro-Optik ve Fotonik Çalıştayı, Turkey, 05 September 2014

XIX. **Al2O3 Ridge Waveguide Design for Applications in Active and Passive Optical Waveguides**
Özden A., DEMİRTAŞ M., AY F.
16. Ulusal Optik, Elektro-Optik ve Fotonik Çalıştayı, Turkey, 05 September 2014

XX. **Investigation of optimization parameters of ALD grown Al2O3 for Integrated Optical Circuits**
DEMİRTAŞ M., Ayberk Ö., AY F.
10th Nanoscience and Nanotechnology Conference, Turkey, 17 - 21 June 2014

Supported Projects

Demirtaş M., Other International Funding Programs, Defining novel mechanisms of sudden death in Dravet syndrome: Dysregulation of sodium channels in the heart (Founding: NIH, USA; Project Number:5R01NS121234), 2021 - 2026
Demirtaş M., Other International Funding Programs, Regulation and dysregulation of sodium channels by calmodulin(Founding: NIH, USA; Project Number:1R01HL155378), 2021 - 2026
Demirtaş M., Other International Funding Programs, Molecular Diagnostics using a Nanopore to Analyze Secretions from Single Cells (Founding: NIH, USA; Project Number:5R01GM127537), 2019 - 2024
Ay F., Sevik C., Kosku Perkgöz N., TUBITAK Project, Kartlar ve Çipler Arası Optik Veri Yolları Uygulamaları için Yenilikçi Yüksek Kazançlı Katı Hal Fotonik Yükselteç Aygıtlar, 2015 - 2018
Demirtaş M., Ay F., Kosku Perkgöz N., Sevik C., Project Supported by Higher Education Institutions, Tümleşik Dalga Kılavuzu Aygıt Test Sisteminin Geliştirilmesi, 2016 - 2017
Demirtaş M., Şar H., Ay F., Kosku Perkgöz N., Sevik C., Project Supported by Higher Education Institutions, MoS2 Tabanli Transistör Mikro-Fabrikasyonu ve Optimizasyonu, 2016 - 2017
Demirtaş M., Ay F., Kosku Perkgöz N., Sevik C., Project Supported by Higher Education Institutions, Mikro nano Sistemler için Yenilikçi Fonksiyonel Optoelektronik Yapılar, 2014 - 2017
Demirtaş M., Ay F., Project Supported by Higher Education Institutions, Dielektrik Dalga Kılavuzlarının Tasarımı ve Deneysel Gerçeklemesi, 2015 - 2016

Metrics

Publication: 32
Citation (WoS): 119
Citation (Scopus): 76
H-Index (WoS): 5
H-Index (Scopus): 6