



Asst. Prof. Berna Morova

Personal Information

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International Researcher IDs

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Publons / Web Of Science ResearcherID: AAC-6347-2021

ScopusID: 57195804504

Yoksis Researcher ID: 152935

Education Information

2011 - 2017	Doctorate, Istanbul Technical University, Fen Bilimleri Enstitüsü, Physics Engineering, Turkey
2009 - 2011	Postgraduate, Istanbul Technical University, Fen Bilimleri Enstitüsü, Physics Engineering, Turkey
2004 - 2009	Undergraduate, Istanbul Technical University, Fen-Edebiyat, Fizik Mühendisliği, Turkey

Foreign Languages

English, B2 Upper Intermediate

Research Areas

Optics

Academic Titles / Tasks

2022 - Continues	Assistant Professor, Istanbul Technical University, Fen-Edebiyat, Fizik Mühendisliği
2021 - 2022	Lecturer PhD, Fatih Sultan Mehmet Foundation University, Faculty Of Engineering, Department Of Computer Engineering
2019 - 2022	Research Assistant PhD, Koc University, Research Center For Translational Medicine
2017 - 2022	Research Assistant PhD, Koc University, Faculty Of Science, Department Of Physics
2010 - 2017	Research Assistant, Istanbul Technical University, Fen-Edebiyat, Fizik Mühendisliği

Courses

2021 - 2022	Physics II, Undergraduate
2021 - 2022	Physics I, Undergraduate

Published journal articles indexed by SCI, SSCI, and AHCI

- I. **An LED-Based structured illumination microscope using a digital micromirror device and GPU accelerated image reconstruction**
Morova B., Aydın M., Uysallı Y., Özgönül E., Tiryaki F., Firat Karalar E. N., Doğan B., Kiraz A.
PLOS ONE, vol.17, no.9, pp.1-22, 2022 (SCI-Expanded)
- II. **Understanding the Link between Inflammasome and Apoptosis through the Response of THP-1 Cells against Drugs Using Droplet-Based Microfluidics**
Gençtürk E., Kasım M., Morova B., Kiraz A., Ülgen K. O.
ACS OMEGA, vol.7, no.19, pp.16323-16332, 2022 (SCI-Expanded)
- III. **Use of an elastic buffer layer for improved performance of a polymer microcylinder ring resonator hydrogen sensor**
Bavili N., Ali B., Morova B., Alaca B. E., Kiraz A.
SENSORS AND ACTUATORS B-CHEMICAL, vol.358, 2022 (SCI-Expanded)
- IV. **An Easy-to-Fabricate Microfluidic Shallow Trench Induced Three-Dimensional Cell Culturing and Imaging (STICI3D) Platform**
Coşkun U. C., Kus F., Rehman A. U., Morova B., Gülle M., Baser H., Kul D., Kiraz A., Baysal K., Erten A. C.
ACS Omega, vol.7, no.10, pp.8281-8293, 2022 (SCI-Expanded)
- V. **Linear cavity tapered fiber sensor using amplified phase-shift cavity ring-down spectroscopy**
Ayaz R. M. A., Uysallı Y., Morova B., Kiraz A.
JOURNAL OF THE OPTICAL SOCIETY OF AMERICA B-OPTICAL PHYSICS, vol.38, no.6, pp.1756-1762, 2021 (SCI-Expanded)
- VI. **Linear cavity tapered fiber sensor using mode-tracking phase-shift cavity ring-down spectroscopy**
Ayaz R. M. A., Uysallı Y., Morova B., Bavili N., Ullah U., Ghauri M. D., Cheema M. I., Kiraz A.
JOURNAL OF THE OPTICAL SOCIETY OF AMERICA B-OPTICAL PHYSICS, vol.37, no.6, pp.1707-1713, 2020 (SCI-Expanded)
- VII. **Highly sensitive optical sensor for hydrogen gas based on a polymer microcylinder ring resonator**
Bavili N., Balkan T., Morova B., Eryurek M., Uysallı Y., Kaya S., Kiraz A.
SENSORS AND ACTUATORS B-CHEMICAL, vol.310, 2020 (SCI-Expanded)
- VIII. **Fabrication and characterization of large numerical aperture, high-resolution optical fiber bundles based on high-contrast pairs of soft glasses for fluorescence imaging**
Morova B., Bavili N., Yaman O., Yigit B., Zeybel M., Aydın M., DOĞAN B., Kasztelaniec R., Pysz D., Buczynski R., et al.
OPTICS EXPRESS, vol.27, no.7, pp.9502-9515, 2019 (SCI-Expanded)
- IX. **Enhancement of polycrystalline silicon solar cells efficiency using indium nitride particles**
Alkis S., Chowdhury F. I., ALEVLİ M., Dietz N., Yalizay B., Aktürk S., Nayfeh A., OKYAY A. K.
Journal of Optics (United Kingdom), vol.17, no.10, 2015 (SCI-Expanded)
- X. **Versatile liquid-core optofluidic waveguides fabricated in hydrophobic silica aerogels by femtosecond-laser ablation**
Yalizay B., Morova Y., Dincer K., Ozbakir Y., Jonas A., Erkey C., Kiraz A., Aktürk S.
Optical Materials, vol.47, pp.478-483, 2015 (SCI-Expanded)
- XI. **Propagation characteristics of Bessel beams generated by continuous, incoherent light sources**
Altıngöz C., Yalizay B., Aktürk S.
Journal of the Optical Society of America A: Optics and Image Science, and Vision, vol.32, no.8, pp.1567-1575, 2015 (SCI-Expanded)
- XII. **Free-standing optofluidic waveguides formed on patterned superhydrophobic surfaces**
Jonas A., Yalizay B., Aktürk S., Kiraz A.
Applied Physics Letters, vol.104, no.9, 2014 (SCI-Expanded)
- XIII. **Self-reconstruction of diffraction-free and accelerating laser beams in scattering media**
Ersoy T., Yalizay B., Aktürk S.
Journal of Quantitative Spectroscopy and Radiative Transfer, vol.113, no.18, pp.2470-2475, 2012 (SCI-Expanded)
- XIV. **Fabrication of nanometer-size structures in metal thin films using femtosecond laser Bessel beams**
Yalizay B., Ersoy T., Soylu B., Aktürk S.
Applied Physics Letters, vol.100, no.3, 2012 (SCI-Expanded)

XV. Optical element for generation of accelerating Airy beams

Yalizay B., Soylu B., Akturk S.

Journal of the Optical Society of America A: Optics and Image Science, and Vision, vol.27, no.10, pp.2344-2346, 2010 (SCI-Expanded)

Articles Published in Other Journals

I. PROPAGATION OF DIFFRACTION-FREE AND ACCELERATING LASER BEAMS IN TURBID MEDIA

Ersoy T., Yalizay B., Cilesiz I., Akturk S.

ATTI ACCADEMIA PELORITANA DEI PERICOLANTI-CLASSE DI SCIENZE FISICHE MATEMATICHE E NATURALI, vol.89, 2011 (ESCI)

Refereed Congress / Symposium Publications in Proceedings

I. A Deep Learning Model for Automated Segmentation of Fluorescence Cell images

Aydin M., Kiraz B., Eren F., Uysal Y., Morova B., Can Ozcan S., Acilan C., Kiraz A.

A Life in Mathematical Physics: Conference in Honour of Tekin Dereli, DERELI-FS 2021, Virtual, Online, 26 - 28 November 2021, vol.2191

II. Metal-gas interaction studies using whispering gallery modes

Bavili N., Morova B., Kiraz A.

Conference on Optical Sensing and Detection VI, ELECTR NETWORK, 6 - 10 April 2020, vol.11354

III. Image Reconstruction in Frequency Space using Sinusoidal Illumination Patterns Sinuzoidal

Aydinlatma Desenleri Kullanılarak Frekans Uzayında Goruntu Yeniden Yapilandirma

Aydin M., Kiraz A., Uysalli Y., Ozgonul E., Morova B.

28th Signal Processing and Communications Applications Conference, SIU 2020, Gaziantep, Turkey, 5 - 07 October 2020

IV. Amplified Phase Shift - Fiber Cavity Ring Down Spectroscopy for Biosensing Applications at 1550nm

Cheema M. I., Ullah U., Ghauri M. D., Ayaz R. M. A., Uysalli Y., Morova B., Kiraz A.

Conference on Frontiers in Biological Detection - From Nanosensors to Systems XII, San-Francisco, Costa Rica, 2 - 03 February 2020, vol.11258

V. An LED-based Super Resolution GPU Implemented Structured Illumination Microscope

Aydin M., Uysalli Y., Ozgonul E., Morova B., Kiraz A.

Conference on Single Molecule Spectroscopy and Superresolution Imaging XIII, San-Francisco, Costa Rica, 1 - 02 February 2020, vol.11246

VI. Optical sensors based on palladium and polymer-coated optical fiber resonators

Bavili N., Eryurek M., Morova B., Yilgor I., Yilgor E., Kiraz A.

Conference on Optical Sensors, Prague, Czech Republic, 1 - 04 April 2019, vol.11028

VII. Femtosecond Laser Ablated Tracks on Smart Surfaces for Droplet Manipulation Applications Akilli

Yüzeylerde Femtosaniye Lazer ile Üretilen Kanalların Damla Manipülasyonunda Kullanımı

Rashid Z., Coskun U. C., Morova Y., Morova B., Bozkurt A. A., Erten A. C., Jonas A., Aktürk S., Kiraz A.

21st National Biomedical Engineering Meeting, BIYOMUT 2017, İstanbul, Turkey, 24 - 26 November 2017

VIII. Mikroakiskan sistemlerde lazer ile üretilen yüzeylerle damla manipülasyonu

ERTEN A. C., Rashid Z., Cosku U., Morova Y., Morova B., JONAS A., KIRAZ A.

IMSEC 2017, 25 - 27 October 2017

IX. Surface assisted guiding of microdroplets over laser ablated paths

ERTEN A. C., Rashid Z., Morova Y., Yalizay B., Coskun U., JONAS A., KIRAZ A.

1st International Mediterranean Science and Engineering Congress IMSEC 2016, 26 - 28 November 2016

X. Smart Surface Based Guiding of Microdroplets Over Laser Ablated Sinusoidal Rail

RASHİD Z., Morova Y., YALIZAY B., COŞKUN U. C., ERTEN A., JONAS A., AKTÜRK S., KIRAZ A.

18. Ulusal Optik, Elektro-Optik ve Fotonik Çalıştayı, Turkey, 1 - 04 July 2016

XI. Optofluidic waveguides written in hydrophobic silica aerogels with a femtosecond laser

Yalizay B., Morova Y., Ozbakir Y., Jonas A., Erkey C., Kiraz A., Akturk S.

Integrated Optics: Devices, Materials, and Technologies XIX, California, United States Of America, 9 - 11 February 2015, vol.9365

XII. Investigation of shaped laser beam propagation in turbid media

Ersoy T., Yalizay B., Çilesiz F. İ., Akturk S.

European Quantum Electronics Conference, EQEC 2011, Munich, Germany, 22 - 26 May 2011

XIII. Investigation of shaped laser beam propagation in turbid media

Ersoy T., Yalizay B., Çilesiz F. İ., Akturk S.

2011 Conference on Lasers and Electro-Optics Europe and 12th European Quantum Electronics Conference, CLEO EUROPE/EQEC 2011, Munich, Germany, 22 - 26 May 2011

Supported Projects

2019 - 2021	Fiber Demeti Ve Yapılandırılmış Aydınlatma Kullanan Yüksek Çözünürlüklü Mikroendoskop, TUBITAK Project
2018 - 2021	Akıllı Yüzeyler İle Yüzey Ve Yonga-Üstü-Laboratuvar Uygulamalarına Yönelik Damla Manipülasyon Tekniklerinin Geliştirilmesi, TUBITAK Project

Metrics

Publication: 35

Citation (WoS): 179

Citation (Scopus): 188

H-Index (WoS): 7

H-Index (Scopus): 7

Scholarships

2013 - 2017	Doktora Bursu, Foundation
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Non Academic Experience

2008 - 2009	ARI Teknokent Proje Geliştirme Planlama A.Ş.
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