

Assoc. Prof. Onur Ferhanoglu

Personal Information

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Biography

Onur Ferhanoglu received B.S. and M.S. degrees from Bilkent University, in 2003 and 2005 respectively, in Electrical Engineering. In 2005, he joined the Optical Microsystems Laboratory at Koç University as a graduate researcher, where he developed MEMS based thermal imaging sensor arrays. During graduate studies, he visited Johns Hopkins University (2004), Georgia Tech. (2007) and EPFL (2010) as a research scholar. After receiving his Ph.D. (2011), he became a post-doctoral fellow at Femtosecond Laser Assisted Biophotonics Laboratory at the University of Texas at Austin, where he played a keyrole in the development of an ultrafast laser microsurgery scalpel (2011-2014).

Education Information

Doctorate, Koç Üniversitesi, Fen Bilimleri Enstitüsü, Elektrik Ve Elektronik Mühendisliği (Dr), Turkey 2005 - 2011

Postgraduate, İhsan Doğramacı Bilkent Üniversitesi, Mühendislik Fakültesi, Elektrik-Elektronik Mühendisliği Bölümü, Turkey 2003 - 2005

Undergraduate, İhsan Doğramacı Bilkent Üniversitesi, Mühendislik Fakültesi, Elektrik-Elektronik Mühendisliği Bölümü, Turkey 1999 - 2003

Foreign Languages

English

Dissertations

Doctorate, Design, fabrication and characterization of a MOEMS based thermal imaging system, Koç Üniversitesi, Fen Bilimleri Enstitüsü, Elektrik Ve Elektronik Mühendisliği (Dr), 2010

Postgraduate, Safety of metallic implants in magnetic resonance imaging, İhsan Doğramacı Bilkent Üniversitesi, Mühendislik Fakültesi, Elektrik-Elektronik Mühendisliği Bölümü, 2005

Research Areas

Technical Sciences, Biomedical Engineering, bioPhotonic, Biomedical Optics

Academic Titles / Tasks

Associate Professor, Istanbul Technical University, Elektrik-Elektronik, Elektronik Ve Haberleşme Mühendisliği, 2019 - Continues

Assistant Professor, Istanbul Technical University, Elektrik-Elektronik, Elektronik Ve Haberleşme Mühendisliği, 2014 - 2019

Articles Published in Journals That Entered SCI, SSCI and AHCI Indexes

- I. **Monitoring modal shape of miniaturized dynamic structures via laser triangulation and stroboscopy**
Erdem Y. E. , Yelten M. B. , Ferhanoğlu O.
MICROSYSTEM TECHNOLOGIES-MICRO-AND NANOSYSTEMS-INFORMATION STORAGE AND PROCESSING SYSTEMS, vol.27, no.10, pp.3751-3756, 2021 (Journal Indexed in SCI)
- II. **A meandered dual loop antenna for wireless capsule endoscopy**
Gures E., Yelten M. B. , Özdemir Ö., Ferhanoğlu O.
AEU-INTERNATIONAL JOURNAL OF ELECTRONICS AND COMMUNICATIONS, vol.137, 2021 (Journal Indexed in SCI)
- III. **Multi-Capsule Endoscopy: An initial study on modeling and phantom experimentation of a magnetic capsule train**
Peker F., Ferhanoğlu O.
JOURNAL OF MEDICAL AND BIOLOGICAL ENGINEERING, vol.41, pp.315-321, 2021 (Journal Indexed in SCI)
- IV. **MRI Compatible Fiber Optic Multi Sensor Platform for Real Time Vital Monitoring**
Zolfaghari P., Erden O. K. , Ferhanoğlu O., Tumer M., YALÇINKAYA A. D.
JOURNAL OF LIGHTWAVE TECHNOLOGY, vol.39, no.12, pp.4138-4144, 2021 (Journal Indexed in SCI)
- V. **Improved physical layer security of visible light communications with focused light emitters**
Cirkinoglu H. O. , Ferhanoğlu O., Karabulut Kurt G. Z.
OPTICS COMMUNICATIONS, vol.485, 2021 (Journal Indexed in SCI)
- VI. **Optical characterization of heat dependent collagen denaturation via Mueller matrix polarimetry in combination with principal component analysis**
Derman D., Opar E., Ferhanoğlu O., POLAT Ö., KAZANCI M.
APPLIED OPTICS, vol.60, no.9, pp.2543-2548, 2021 (Journal Indexed in SCI)
- VII. **Optical characterization of olive and sun flower oils via mueller matrix polarimetry in combination with principal component analysis**
Derman D., Senel E. C. , Opar E., Ferhanoğlu O., POLAT Ö.
JOURNAL OF FOOD MEASUREMENT AND CHARACTERIZATION, 2021 (Journal Indexed in SCI)
- VIII. **A 3D-printed 3D actuator for miniaturized laser scanning probes**
Gurcuoglu O., Derman I. D. , Altinsoy M., Khayatzadeh R., Civitci F., Erten A. C. , Ferhanoğlu O.
SENSORS AND ACTUATORS A-PHYSICAL, vol.317, 2021 (Journal Indexed in SCI)
- IX. **Synchronous Imaging of Multiple Slices Using Higher-Order Bessel Beams and a Spherical Lens**
Tekpınar M., Ferhanoğlu O.
IEEE PHOTONICS TECHNOLOGY LETTERS, vol.32, no.23, pp.1477-1480, 2020 (Journal Indexed in SCI)
- X. **Experimental and modeling studies of automotive-qualified OLEDs under electrical stress**
Guney A., Yelten M. B. , Ferhanoğlu O., KAHRAMAN N.
MICROELECTRONICS RELIABILITY, vol.111, 2020 (Journal Indexed in SCI)
- XI. **A 3D-printed tunable fluidic lens with collagen-enriched membrane**
Senel E. C. , Derman I. D. , Satak S., Erten A. C. , Ferhanoğlu O.
MICROSYSTEM TECHNOLOGIES-MICRO-AND NANOSYSTEMS-INFORMATION STORAGE AND PROCESSING SYSTEMS, 2020 (Journal Indexed in SCI)
- XII. **Scattering Metal Waveguide Based Speckle-Enhanced Prism Spectrometry**
Cetindag S. K. , Toy M. F. , Ferhanoğlu O., Çivitci F.
JOURNAL OF LIGHTWAVE TECHNOLOGY, vol.38, no.7, pp.2022-2027, 2020 (Journal Indexed in SCI)
- XIII. **A 45 degrees tilted 3D-printed scanner for compact side-view laser scanning endoscopy**
Savas J., Altinsoy M., GÖKDEL Y. D. , Ferhanoğlu O., Civitci F.
MICROSYSTEM TECHNOLOGIES-MICRO-AND NANOSYSTEMS-INFORMATION STORAGE AND PROCESSING SYSTEMS, vol.26, no.4, pp.1093-1099, 2020 (Journal Indexed in SCI)
- XIV. **Reliability Testing of 3D-Printed Polyamide Actuators**

Kasap G., Gokdel Y. D. , Yelten M. B. , Ferhanoğlu O.

IEEE TRANSACTIONS ON DEVICE AND MATERIALS RELIABILITY, vol.20, no.1, pp.152-156, 2020 (Journal Indexed in SCI)

- XV. **Enhanced transmitting and blocking filter design approach for laser scanning applications based on combining GSM and AFGSM methods**
Erkan O., Şimşek S., Ferhanoğlu O.
AEU-INTERNATIONAL JOURNAL OF ELECTRONICS AND COMMUNICATIONS, vol.114, 2020 (Journal Indexed in SCI)
- XVI. **A stainless-steel micro-scanner for rapid 3D confocal imaging**
Oyman H. A. , Efe B. C. , Icel M. A. , GÖKDEL Y. D. , Ferhanoğlu O., YALÇINKAYA A. D.
JOURNAL OF PHYSICS D-APPLIED PHYSICS, vol.52, no.30, 2019 (Journal Indexed in SCI)
- XVII. **Multiple-pattern generating piezoelectric fiber scanner toward endoscopic applications**
Tekpınar M., Khayatzaheh R., Ferhanoğlu O.
OPTICAL ENGINEERING, vol.58, no.2, 2019 (Journal Indexed in SCI)
- XVIII. **A Speckle-Enhanced Prism Spectrometer With High Dynamic Range**
Cetindag S. K. , Toy M. F. , Ferhanoğlu O., Çivitci F.
IEEE PHOTONICS TECHNOLOGY LETTERS, vol.30, no.24, pp.2139-2142, 2018 (Journal Indexed in SCI)
- XIX. **Performance of a three-dimensional-printed microscanner in a laser scanning microscopy application**
Oyman H. A. , GÖKDEL Y. D. , Ferhanoğlu O., YALÇINKAYA A. D.
OPTICAL ENGINEERING, vol.57, no.4, 2018 (Journal Indexed in SCI)
- XX. **Reliability Testing of 3D-printed Electromechanical Scanning Devices**
Gönültaş B. M. , SAVAŞ J., Khayatzaheh R., Aygün S., ÇİVİTÇİ F., GÖKDEL Y. D. , YELTEN M. B. , FERHANOĞLU O.
Journal Of Electronic Testing-Theory And Applications, 2018 (Journal Indexed in SCI Expanded)
- XXI. **Scanning fiber microdisplay: design, implementation, and comparison to MEMS mirror-based scanning displays**
Khayatzaheh R., Civitci F., Ferhanoğlu O., Urey H.
Optics Express, vol.26, no.5, pp.5576-5590, 2018 (Journal Indexed in SCI Expanded)
- XXII. **Toward fully three-dimensional-printed miniaturized confocal imager**
Savaş J., Khayatzaheh R., Çivitci F., Gökdel Y. D. , Ferhanoğlu O.
OPTICAL ENGINEERING, vol.57, no.4, pp.41402, 2018 (Journal Indexed in SCI)
- XXIII. **A 3D scanning laser endoscope architecture utilizing a circular piezoelectric membrane**
KHAYATZADEH R., Civitci F., Ferhanoğlu O.
OPTICS COMMUNICATIONS, vol.405, pp.222-227, 2017 (Journal Indexed in SCI)
- XXIV. **Unwarped Lissajous Scanning With Polarization Maintaining Fibers**
KHAYATZADEH R., Ferhanoğlu O., Civitci F.
IEEE PHOTONICS TECHNOLOGY LETTERS, vol.29, no.19, pp.1623-1626, 2017 (Journal Indexed in SCI)
- XXV. **Optimization of piezo-fiber scanning architecture for low voltage/high displacement operation**
KHAYATZADEH R., CIVITCI F., Ferhanoğlu O.
SENSORS AND ACTUATORS A-PHYSICAL, vol.255, pp.21-27, 2017 (Journal Indexed in SCI)
- XXVI. **Thermomechanical MEMS membranes for fiber optic temperature sensing**
Ferhanoğlu O.
TURKISH JOURNAL OF ELECTRICAL ENGINEERING AND COMPUTER SCIENCES, vol.25, no.3, pp.2491-2500, 2017 (Journal Indexed in SCI)
- XXVII. **Kagome fiber based ultrafast laser microsurgery probe delivering micro-Joule pulse energies**
Subramanian K., GABAY I., Ferhanoglu O., Shadfan A., Pawlowski M., Wang Y., Tkaczyk T., BEN-YAKAR A.
BIOMEDICAL OPTICS EXPRESS, vol.7, no.11, pp.4639-4653, 2016 (Journal Indexed in SCI)
- XXVIII. **A Prism-Based Optical Readout Method for MEMS Bimaterial Infrared Sensors**
Adiyan U., CIVITCI F., Ferhanoğlu O., Torun H., Urey H.
IEEE PHOTONICS TECHNOLOGY LETTERS, vol.28, no.17, pp.1866-1869, 2016 (Journal Indexed in SCI)
- XXIX. **Fiber Temperature Sensor Utilizing a Thermomechanical MEMS Detector**
Cirkinoglu H. O. , Bilgin H., CIVITCI F., Torun H., Ferhanoğlu O.

JOURNAL OF LIGHTWAVE TECHNOLOGY, vol.34, no.3, pp.1025-1030, 2016 (Journal Indexed in SCI)

XXX. **A 35- μ m Pitch IR Thermo-Mechanical MEMS Sensor With AC-Coupled Optical Readout**
Adiyan U., Civitci F., Ferhanođlu O., Torun H., Urey H.

IEEE JOURNAL OF SELECTED TOPICS IN QUANTUM ELECTRONICS, vol.21, no.4, 2015 (Journal Indexed in SCI)

Supported Projects

Ferhanođlu O., Project Supported by Higher Education Institutions, Yüksek Çözünürlüklü ve Geniş Bant Aralıklı Spektrometre Sistemi, 2016 - 2019

Ferhanođlu O., Project Supported by Higher Education Institutions, Termomekanik MEMS tabanlı Fiber optik sıcaklık algılayıcısı (Fiber temperature sensor utilizing a thermomechanical MEMS detector), 2016 - 2018

Ferhanođlu O., Project Supported by Higher Education Institutions, Piezoelektrik tabanlı fiber tarayıcı ünitesi, 2016 - 2017

Ferhanođlu O., Project Supported by Higher Education Institutions, KANSER TEŞHİSİNE YÖNELİK LAZER ENDOSKOPLARIN GELİŞTİRİLMESİ, 2015 - 2017

Citations

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