

## Asst. Prof. HASAN ONUR KELEŞ

### Personal Information

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### International Researcher IDs

ScholarID: sLs9DGwAAAAJ

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Yoksis Researcher ID: 281226

### Education Information

Doctorate, University of Houston, United States Of America 2011 - 2015

Undergraduate, Sakarya University, Faculty Of Engineering, Department Of Metallurgical And Materials Engineering, Turkey 2003 - 2007

### Research Areas

Medicine, Biomedical Engineering

### Academic Titles / Tasks

Assistant Professor, Ankara University, Mühendislik Fakültesi, Biyomedikal Mühendisliği Bölümü, 2020 - Continues

Assistant Professor, Istinye University, Faculty Of Engineering, Department Of Electrical And Electronic Engineering, 2018 - 2020

### Academic and Administrative Experience

Uygulama ve Araştırma Merkezi Yönetim Kurulu Üyesi, Ankara University, Tıp Fakültesi, Tıp Fakültesine Bağ.Araş.Uyg. Merkezleri, 2023 - Continues

Vice Dean, Istinye University, 2018 - 2020

Head of Department, Istinye University, 2018 - 2020

### Courses

Functional Neuroimage, Postgraduate, 2021 - 2022, 2020 - 2021

Electronic Physics and Systems, Undergraduate, 2018 - 2019

Engineering Design, Undergraduate, 2018 - 2019

Medikal sistemler ve İnovasyon, Undergraduate, 2018 - 2019

### Advising Theses

Keleş H. O., Investigating Right Hand and Left Hand Symmetry/Asymmetry with an Integrated Force Sensor in Laparoscopic Box Training, Postgraduate, S.SELİN(Student), 2024

Keleş H. O., COMPARATIVE ANALYSIS OF DIFFERENT MACHINE LEARNING MODELS FOR DETECTION AND CLASSIFICATION OF BULL SPERM, Postgraduate, M.AYDOĞAN(Student), 2024

Keleş H. O., Sürer E., Developing a virtual reality adaptation of the laparoscopic surgical training: A multimodal study, Postgraduate, E.YOSUNKAYA(Student), 2023

Keleş H. O., Mental Workload Monitoring With Multimodal Approach During Laparoscopic Surgery Training, Postgraduate, K.KARA(Student), 2023

## Published journal articles indexed by SCI, SSCI, and AHCI

- I. **Screening for Alzheimer's disease using prefrontal resting-state functional near-infrared spectroscopy**  
Keleş H. O., Keles H. O., Karakulak E. Z., Hanoglu L., Omurtag A.  
FRONTIERS IN HUMAN NEUROSCIENCE, vol.16, pp.1-15, 2022 (SCI-Expanded)
- II. **High density optical neuroimaging predicts surgeons's subjective experience and skill levels**  
KELEŞ H. O., Cengiz C., Demiral I., Ozmen M. M., Omurtag A.  
PLOS ONE, vol.16, no.2, 2021 (SCI-Expanded)
- III. **Decoding human mental states by whole-head EEG plus fNIRS during category fluency task performance**  
Omurtag A., Aghajani H., Keles H. O.  
JOURNAL OF NEURAL ENGINEERING, vol.14, no.6, 2017 (SCI-Expanded)
- IV. **Using Functional Near-Infrared Spectroscopy to Measure Effects of Delta 9-Tetrahydrocannabinol on Prefrontal Activity and Working Memory in Cannabis Users**  
Keles H. O., Radoman M., Pachas G. N., Evins A. E., Gilman J. M.  
FRONTIERS IN HUMAN NEUROSCIENCE, vol.11, 2017 (SCI-Expanded)
- V. **Hemodynamic correlates of spontaneous neural activity measured by human whole-head resting state EEG plus fNIRS**  
Keles H. O., Barbour R. L., Omurtag A.  
NEUROIMAGE, vol.138, pp.76-87, 2016 (SCI-Expanded)
- VI. **Hybrid EEG-fNIRS Asynchronous Brain-Computer Interface for Multiple Motor Tasks**  
Buccino A. P., Keles H. O., Omurtag A.  
PLOS ONE, vol.11, no.1, 2016 (SCI-Expanded)
- VII. **Nanoliter droplet vitrification for oocyte cryopreservation**  
Zhang X., Khimji I., Shao L., Safaee H., Desai K., Keles H. O., Gurkan U. A., Kayaalp E., Nurreddin A., Anchan R. M., et al.  
NANOMEDICINE, vol.7, no.4, pp.553-564, 2012 (SCI-Expanded)
- VIII. **Three-Dimensional Magnetic Assembly of Microscale Hydrogels**  
Xu F., Wu C. M., Rengarajan V., Finley T. D., Keles H. O., Sung Y., Li B., Gurkan U. A., Demirci U.  
ADVANCED MATERIALS, vol.23, no.37, pp.4254-4260, 2011 (SCI-Expanded)
- IX. **Blood Banking in Living Droplets**  
Samot J., Moon S., Shao L., Zhang X., Xu F., Song Y., Keles H. O., Matloff L., Markel J., Demirci U.  
PLOS ONE, vol.6, no.3, 2011 (SCI-Expanded)
- X. **Lensless imaging for simultaneous microfluidic sperm monitoring and sorting**  
Zhang X., Khimji I., Gurkan U. A., Safaee H., Catalano P. N., Keles H. O., Kayaalp E., Demirci U.  
LAB ON A CHIP, vol.11, no.15, pp.2535-2540, 2011 (SCI-Expanded)
- XI. **Controlled viable release of selectively captured label-free cells in microchannels**  
Gurkan U. A., Anand T., Tas H., Elkan D., Akay A., Keles H. O., Demirci U.  
LAB ON A CHIP, vol.11, no.23, pp.3979-3989, 2011 (SCI-Expanded)
- XII. **Layer by Layer Three-Dimensional Tissue Epitaxy by Cell-Laden Hydrogel Droplets**  
Moon S., Hasan S. K., Song Y. S., Xu F., Keles H. O., Manzur F., Mikkilineni S., Hong J. W., Nagatomi J., Haeggstrom E., et

al.

TISSUE ENGINEERING PART C-METHODS, vol.16, no.1, pp.157-166, 2010 (SCI-Expanded)

**XIII. Integrating microfluidics and lensless imaging for point-of-care testing**

Moon S., Keles H. O., Ozcan A., Khademhosseini A., Haeggstrom E., Kuritzkes D., Demirci U.

BIOSENSORS & BIOELECTRONICS, vol.24, no.11, pp.3208-3214, 2009 (SCI-Expanded)

**XIV. Rapid automated cell quantification on HIV microfluidic devices**

Alyassin M. A., Moon S., Keles H. O., Manzur F., Lin R. L., Haeggstrom E., Kuritzkes D. R., Demirci U.

LAB ON A CHIP, vol.9, no.23, pp.3364-3369, 2009 (SCI-Expanded)

**XV. Title cell encapsulation by droplets**

Moon S., Lin P., KELEŞ H. O., Yoo S., Demirci U.

Journal of Visualized Experiments, no.8, 2007 (SCI-Expanded)

## Articles Published in Other Journals

**I. Video game experience affects performance, cognitive load, and brain activity in laparoscopic surgery training**

Keleş H. O., Omurtag A.

TURKISH JOURNAL OF SURGERY, vol.39, no.2, pp.95-101, 2023 (Scopus)

**II. Cerrahların Zihinsel İş Yükü Değerlendirmesinde İşlevsel Beyin Görüntüleme Uygulamaları**

KELEŞ H. O.

Türk Nöroşirürji Dergisi, vol.32, no.2, 2022 (Peer-Reviewed Journal)

## Books & Book Chapters

**I. Cerrahi ve Simülasyon**

KELEŞ H. O.

in: Schwartz Cerrahinin İlkeleri, M. Mahir ÖZMEN, Editor, Güneş Tıp Kitabevi, Ankara, pp.2165-2192, 2021

## Refereed Congress / Symposium Publications in Proceedings

**I. Developing a 3D Laparoscopy Training Application to Assess the Efficacy in Virtual Reality Environments**

Yosunkaya E., Şahin S. S., SÜRER E., KELEŞ H. O.

9th EAI International Conference on Smart Objects and Technologies for Social Goods, GOODTECHS 2023, Leiria, Portugal, 18 - 20 October 2023, vol.556 LNICST, pp.79-90

**II. Multimodal Approach to Assess a Virtual Reality-Based Surgical Training Platform**

Demirel D., KELEŞ H. O., Modak C., Basturk K. K., Barker J. R., Halic T.

15th International Conference on Virtual, Augmented and Mixed Reality, VAMR 2023, held as part of the 25th International Conference on Human-Computer Interaction, HCII 2023, Copenhagen, Denmark, 23 - 28 July 2023, vol.14027 LNCS, pp.430-440

**III. Multimodal approach of motor learning and mental workload during laparoscopic surgery training**

Keleş H. O., Kara K.

Ulusal Sinir Bilim Kongresi , İstanbul, Turkey, 19 - 23 October 2022, pp.1-2

**IV. Prediction of cognitive domains in Alzheimer patients by few fNIRS channels**

Keleş H. O., Omurtag A., Hanoğlu L.

Society of Functional Near Infrared Society Conference 2022 ( fNIRS2022), Massachusetts, United States Of America, 20 August 2022

**V. A Machine Learning-Based Approach for Predicting Surgeons 2019 Subjective Experience and Skill**

### **Levels: Neuroimaging Study**

KELEŞ H. O., CENGİZ C., Demiral İ., ÖZMEN M. M., Omurtag A.

ASiT Annual Conference 2021, United Kingdom, 5 - 07 March 2021

- VI. **Video game experience affects multimodal parameters in laparoscopic surgery training**  
KELEŞ H. O., Omurtag A.  
Neuroergonomics Conference 2021, Germany, 12 August 2021
- VII. **Using Functional Near Infrared Spectroscopy to Measure Effects of Delta 9-Tetrahydrocannabinol on Prefrontal Activity and Working Memory in Cannabis Users**  
KELEŞ H. O., Pachas G., Evins A. E., Radoman M., Gilman J.  
NEUROPSYCHOPHARMACOLOGY, Palm Springs, 3 - 07 December 2017, vol.42, pp.448
- VIII. **Using portable imaging to determine marijuana intoxication in humans**  
KELEŞ H. O., Gilman J., Sobolewski S., Radoman M., Pachas G., Evins A. E.  
CPDD 79th Annual Meeting, Montreal, Canada, 17 June 2017
- IX. **Classifying the Brain's Functional Status in Verbal Fluency Task: EEG+fNIRS**  
Omurtag A., Aghajani H., KELEŞ H. O.  
The Society for Functional Near Infrared Spectroscopy, fNIRS 2016, France, 15 October 2016
- X. **Investigation of the neurovascular coupling from simultaneous fNIRS-EEG system using the triplet holder**  
KELEŞ H. O., Barbour R. L., Aghajani H., Omurtag A.  
The Society for Functional Near Infrared Spectroscopy, fNIRS 2014, Canada, 15 October 2014
- XI. **Multimodality mapping approach for evolving functional brain connectivity patterns: A fNIRS-EEG study**  
KELEŞ H. O., Barbour R. L., Aghajani H., Omurtag A.  
Biomedical Optics 2014, Miami, Florida, 26 - 30 April 2014
- XII. **Nanoliter Droplet System for Cell Vitrification**  
Zhang X., Khimji I., Shao L., Safae H., Desai K., KELEŞ H. O., Gurkan U. A., Kayaalp E., Nureddin A., Anchan R., et al.  
BMES 2011 Annual Meeting, Connecticut, United States Of America, 12 October 2011
- XIII. **Integrating Microfluidics and Lensless Imaging for Point-of-Care Testing**  
Moon S., Keles H. O., Khademhosseini A., Kuritzkes D., Demirci U.  
35th Annual Northeast Bioengineering Conference, Cambridge, Canada, 3 - 05 April 2009, pp.32-33
- XIV. **Lensless Imaging for Point-of-Care Testing**  
Moon S., Keles H. O., Kim Y., Kuritzkes D., Demirci U.  
Annual International Conference of the IEEE-Engineering-in-Medicine-and-Biology-Society, Minnesota, United States Of America, 3 - 06 September 2009, pp.6376-6377
- XV. **LAYER BY LAYER 3D TISSUE EPITAXY BY CELL LADEN HYDROGEL DROPLETS**  
Hasan S. K., Moon S., Song Y. S., Keles H. O., Anzur F., Mikkilineni S., Hong J. W., Nagatomi J., Haeggstrom E., Khademhosseini A., et al.  
35th Annual Northeast Bioengineering Conference, Cambridge, Canada, 3 - 05 April 2009, pp.366-367
- XVI. **Single cell epitaxy by acoustic picolitre droplets**  
Moon S., Mikkilineni S., Lin P., KELEŞ H. O., Demirci U.  
8th World Biomaterials Congress 2008, WBC 2008, Amsterdam, Netherlands, 28 May - 01 June 2008, vol.2, pp.713

### **Supported Projects**

Gümüş Akay G., Duman B., KELEŞ H. O., Project Supported by Higher Education Institutions, ERAS Protokolü Eşliğinde Major Kolorektal Rezeksiyon Yapılan Hastalarda Anestezi ve Cerrahi İlişkili Değişkenlerin Bilişsel İşlevlere Etkisinin fNIRS İle Değerlendirilmesi, 2024 - 2025

Keleş H. O., Research Project of the Presidency of Turkey Health Institutes (TÜSEB), Sanal Gerçeklik Tabanlı Cerrahi Eğitimin Beyin Dinamikleri Üzerine Etkisinin İncelenmesi, 2023 - 2025

Keleş H. O., Research Project of the Presidency of Turkey Health Institutes (TÜSEB), Cerrahi asistanların beceri ve

performans gelişiminin boylamsal olarak çoklu yaklaşım ile değerlendirilmesi, 2023 - 2024

Keleş H. O., CB Strateji ve Bütçe Başkanlığı (Kalkınma Bakanlığı) Projesi, Nörobilim ve Nöroteknoloji Mükemmeliyet Merkezi (NÖROM), 2019 - 2023

## **Memberships / Tasks in Scientific Organizations**

Brain Research Society , Vice President, 2021 - Continues, Turkey

Beyin Araştırmaları Derneği, Executive Board Member, 2018 - 2020, Turkey

## **Scientific Refereeing**

PLOS ONE, SCI Journal, February 2022

SENSORS, SCI Journal, January 2022

FRONTIERS IN NEUROSCIENCE, SCI Journal, January 2021

BIOMEDICAL OPTICS EXPRESS, SCI Journal, September 2020

JOURNAL OF NEURAL ENGINEERING, SCI Journal, September 2017

NEUROIMAGE, SCI Journal, April 2015

## **Tasks In Event Organizations**

Keleş H. O., 20, Ulusal Sinir Bilim Kongresi , Scientific Congress, İstanbul, Turkey, Ekim 2022

## **Metrics**

Publication: 34

Citation (WoS): 1013

Citation (Scopus): 884

H-Index (WoS): 12

H-Index (Scopus): 12

## **Awards**

Keleş H. O., Akademik Başarı Ödülü (2021), Ankara Üniversitesi, February 2022