

# Res. Asst. PhD KUTLU KAYA

## Personal Information

**Email:** kutlu.kaya@hacettepe.edu.tr

**Web:** <https://avesis.hacettepe.edu.tr/kutlu.kaya>

### International Researcher IDs

ScholarID: bxc71CoAAAAJ

ORCID: 0000-0002-1826-4659

Publons / Web Of Science ResearcherID: F-7057-2017

ScopusID: 57219226302

Yoksis Researcher ID: 251295

## Education Information

2024 - Continues	Post Doctorate, Yale University, School of Medicine, Department of Psychiatry, United States Of America
2016 - 2022	Doctorate, Hacettepe University, Sağlık Bilimleri Enstitüsü, Fizyoloji A.B.D., Turkey
2019 - 2021	Doctorate, Harvard University, Harvard Medical School, Massachusetts General Hospital, Department of Radiology, United States Of America
2012 - 2016	Postgraduate, Hacettepe University, Sağlık Bilimleri Enstitüsü, Fizyoloji A.B.D., Turkey
2005 - 2011	Undergraduate, Ankara University, Turkey

## Foreign Languages

English, C1 Advanced

## Certificates, Courses and Trainings

2023	Eğiticilerin Eğitimi Sertifika Programı, Education Management and Planning, Hacettepe University
2021	HMX Physiology, Health&Medicine, Harvard Medical School
2020	Good Clinical Practice in Research at an Academic Research Institution, Health&Medicine, Massachusetts General Hospital
2014	Araştırmacılar için Hayvan Kullanım Sertifikası - B, Health&Medicine, Hacettepe University

## Dissertations

2022	Optical Monitoring of Cerebral Blood Flow and Metabolism During Carotid Endarterectomy, Harvard University, Harvard Medical School, Massachusetts General Hospital, Doctorate
2016	Subliminal Uyarılar ile Seçim Yapma Arasındaki İlişkinin Araştırılması., Hacettepe Üniversitesi, Sağlık Bilimleri Enstitüsü, Fizyoloji (Y) (Tezli), Postgraduate

## Research Areas

Medicine, Health Sciences, Fundamental Medical Sciences, Human Physiology, Neurophysiology

## Academic Titles / Tasks

2024 - Continues	Research Assistant PhD, Yale University, School of Medicine, Department of Psychiatry
2022 - Continues	Research Assistant PhD, Hacettepe University, Tıp Fakültesi (Türkçe), Temel Tıp Bilimleri Bölümü
2016 - 2022	Research Assistant, Hacettepe University, Tıp Fakültesi (Türkçe), Temel Tıp Bilimleri Bölümü
2019 - 2021	Research Assistant, Harvard University, Harvard Medical School, Massachusetts General Hospital, Athinoula A. Martinos Center for Biomedical Imaging
2017 - 2017	Researcher, Drexel University, School of Biomedical Engineering, Science and Health Systems
2016 - 2016	Research Assistant, Izmir University Of Economics, School Of Medicine, Department Of Basic Medical Sciences (Medicine)

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

- I. **Choroid Plexus Enlargement and Associated Thalamus Atrophy Initiate in Radiologically Isolated Syndrome**  
Ozbek E. D., Acar N. P., Gormus M., KAYA K., AKÇIÇEK E., Bachhuber F., Tumani H., GÖÇMEN R., KARABUDAK R., TUNCER M. A.  
MULTIPLE SCLEROSIS JOURNAL, no.3, pp.1251, 2024 (SCI-Expanded)
- II. **Measuring pulsatile cortical blood flow and volume during carotid endarterectomy**  
Zavriyev A., Kaya K., Wu K. C., Pierce E., Franceschini M. A., Robinson M.  
BIOMEDICAL OPTICS EXPRESS, vol.3, no.15, pp.1355-1369, 2024 (SCI-Expanded)
- III. **Open-source FlexNIRS: a low-cost, wireless and wearable cerebral health tracker.**  
Wu K., Tamborini D., Renna M., Peruch A., Huang Y., Martin A., Kaya K., Starkweather Z., Zavriyev A. I., Carp S., et al.  
NeuroImage, vol.256, pp.119216, 2022 (SCI-Expanded)
- IV. **Intraoperative Cerebral Hemodynamic Monitoring during Carotid Endarterectomy via Diffuse Correlation Spectroscopy and Near-Infrared Spectroscopy**  
Kaya K., Zavriyev A. I., Orihuela-Espina F., Simon M. V., Lamuraglia G. M., Pierce E. T., Franceschini M. A., Sunwoo J.  
BRAIN SCIENCES, vol.12, no.8, pp.1025, 2022 (SCI-Expanded)
- V. **Diffuse correlation spectroscopy blood flow monitoring for intraventricular hemorrhage vulnerability in extremely low gestational age newborns.**  
Sunwoo J., Zavriyev A. I., Kaya K., Martin A., Munster C., Steele T., Cuddyer D., Sheldon Y., Orihuela-Espina F., Herzberg E. M., et al.  
Scientific reports, vol.12, no.1, pp.12798, 2022 (SCI-Expanded)
- VI. **Disentangling the P300 Components of Evoked Potentials Elicited using Subliminal Oddball Tasks in Reward-Directed Motivation**  
Kaya K., Gelir E., Karaismailoglu E., Karaismailoglu S.  
Neurological Sciences and Neurophysiology, vol.39, pp.206-212, 2022 (SCI-Expanded)
- VII. **Superconducting nanowire single-photon sensing of cerebral blood flow.**  
Ozana N., Zavriyev A. I., Mazumder D., Robinson M., Kaya K., Blackwell M., Carp S. A., Franceschini M. A.  
Neurophotonics, vol.8, pp.35006, 2021 (SCI-Expanded)
- VIII. **Non-invasive Assessment of Cerebral Blood Flow and Oxygen Metabolism in Adults during Cardiac Surgeries with Circulatory Arrest**  
Zavriyev A. I., Kaya K., Nair V. V., Farzam P., Farzam P., Sunwoo J., Carp S. A., Franceschini M. A., Qu J.  
ANESTHESIA AND ANALGESIA, vol.130, pp.101-102, 2020 (SCI-Expanded)

## Articles Published in Other Journals

- I. **Proceedings of the 13th International Newborn Brain Conference: Other forms of brain monitoring, such as NIRS, fMRI, biochemical.**  
Balashova E., Beaulieu O., Benhmida I., Birca A., Boylan G., Carkeek K., Chowdhury R., Cilio M. R., Consoli A., Cote Corriveau G., et al.

Journal of neonatal-perinatal medicine, vol.15, no.2, pp.453-465, 2022 (Scopus)

- II. **The role of diffuse correlation spectroscopy and frequency-domain near-infrared spectroscopy in monitoring cerebral hemodynamics during hypothermic circulatory arrests**  
Zavriyev A., Kaya K., Farzam P., Farzam P. Y., Sunwoo J., Jassar A. S., Sundt T. M., Carp S. A., Franceschini M. A., Qu J. Z.  
JTCVS TECHNIQUES, vol.7, pp.161-177, 2021 (ESCI)

## **Refereed Congress / Symposium Publications in Proceedings**

- I. **Investigation of Physiological Effects of Autonomous Sensory Meridian Response using Electro Dermal Activity and Heart Rate Variability Methods**  
Özgür S. F., Kaya K., Pekaslan K., Karaismailoğlu S., Arihan O., Çakır M. P., Erdem A.  
48th Turkish Physiology Congress, Sakarya, Turkey, 1 - 04 November 2023, pp.54
- II. **The Role of Oxytocin Receptor Gene Polymorphisms in Sex-Specific Functional Brain Network Topology**  
Kaya K., Önal D., Karlı Oğuz H. K., Pehlivanoğlu B.  
48th Turkish Physiology Congress, Sakarya, Turkey, 1 - 04 November 2023, pp.69-70
- III. **Sex-specific influence of oxytocin receptor gene polymorphisms on structural and functional-anatomical connectivity**  
Kaya K., Onal D., Kartal Y., Budak M. T., Karabulut E., Karlı Oğuz H. K., Pehlivanoğlu B.  
1st National Neuroimaging Congress & 2nd Joint German-Turkish Symposium on Human Neuroscience, Ankara, Turkey, 7 - 09 September 2023, pp.9-10
- IV. **Investigation of the influence of autonomous sensory meridian response on the prefrontal cortex using fNIRS**  
Özgür S. F., Kaya K., Pekaslan K., Karaismailoğlu S., Çakır M. P., Arihan O., Erdem A.  
1st National Neuroimaging Congress & 2nd Joint German-Turkish Symposium on Human Neuroscience, Ankara, Turkey, 7 - 09 September 2023, pp.12-13
- V. **FlexNIRS, an open source wearable NIRS cerebral health tracker**  
Wu K., Renna M., Huang Y., Tamborini D., Peruch A., Martin A., Kaya K., Starkweather Z., Zavriyev A. I., Carp S., et al.  
Biophotonics Congress: Biomedical Optics 2022, Florida, United States Of America, 24 - 27 April 2022, pp.1-5
- VI. **Influence of Hemodynamically Significant Patent Ductus Arteriosus on Cerebral Hemodynamics for Intraventricular Hemorrhage Susceptibility in Extremely Premature Infants**  
Martin A., Zavriyev A. I., Kaya K., Starkweather Z., Munster C., Steele T., Cuddyer D., Sheldon Y., Inder T., Herzberg E. M., et al.  
Clinical and Translational Biophotonics, Florida, United States Of America, 01 January 2022, pp.1-5
- VII. **Realization and validation of a low-cost wireless cerebral oximeter using multi-distance method and Bluetooth Low Energy**  
Wu K., Tamborini D., Renna M., Peruch A., Huang Y., Martin A., Kaya K., Starkweather Z., Zavriyev A., Carp S., et al.  
fNIRS 2021 Virtual Meeting, 18 - 22 October 2021
- VIII. **Elucidating dynamic autoregulation of cerebral blood flow and oxygenation during carotid endarterectomy using diffuse correlation spectroscopy and near-infrared spectroscopy**  
Kaya K., Zavriyev A. I., Orihuela-Espina F., Sunwoo J., Simon M. V., Lamuraglia G. M., Pierce E. T., Franceschini M. A.  
fNIRS 2021 Virtual Meeting, 18 - 22 October 2021
- IX. **Non-invasive Assessment of Cerebral Autoregulation in Extremely Low Gestational Age Infants via Diffuse Correlation Spectroscopy**  
Sunwoo J., Zavriyev A. I., Kaya K., Starkweather Z., Steele T., Cuddyer D., Inder T., Franceschini M. A., El-Dib M.  
fNIRS 2021 Virtual Meeting, 18 - 22 October 2021
- X. **Demonstrating the potential role of a cerebral blood flow monitor during cardiac surgery with hypothermic circulatory arrest**  
Zavriyev A. I., KAYA K., Farzam P., Farzam P. Y., Sunwoo J., Jassar A. S., Sundt T. M., Carp S. A., Franceschini M. A., Qu

J. Z.

SPIE, Optical Techniques in Neurosurgery, Neurophotonics, and Optogenetics, Boston, United States Of America, 06 March 2021

- XI. **Detection of cerebral blood flow and hemoglobin oxygenation using diffuse correlation spectroscopy and frequency-domain near-infrared spectroscopy during carotid endarterectomy**  
Kaya K., Zavriyev A. I., Sunwoo J., Simon M. V., Pierce E. T., Franceschini M. A.  
Optical Techniques in Neurosurgery, Neurophotonics, and Optogenetics 2021, Virtual, Online, United States Of America, 6 - 11 March 2021, vol.11629
- XII. **Using diffuse optics to measure cerebral blood flow and oxygen saturation during hypothermic circulatory arrests**  
Zavriyev A. I., Farzam P., Kaya K., Nair V. V., Farzam P., Carp S. A., Franceschini M. A., Qu J. Z.  
Optics and the Brain, BRAIN 2020, Washington, United States Of America, 20 - 23 April 2020
- XIII. **Feed Forward Impact of the Opinions of newly registered Graduate Students on the Programs of Hacettepe University Graduate School of Health Sciences**  
KAYA K., PEHLİVANOĞLU B., ORHAN D.  
Orpheus Conference 2018, Reykjavik, Iceland, 24 - 26 May 2018
- XIV. **What Graduate Students Expect When They Enroll to Graduate Programs of Hacettepe University Institute of Health Sciences: Entrance Poll**  
KAYA K., PEHLİVANOĞLU B., TACAL Ö., ORHAN D.  
International Meeting on Education Research in Health Sciences, 3 - 05 November 2017
- XV. **The effect of subliminal and supraliminal angry human face visual expressions on the choice**  
Taşdemiroğlu N., Gelir E., Yağcıoğlu S., Kaya K., Eren F.  
14th National Congress of Neuroscience, Ankara, Turkey, 26 - 29 May 2016, vol.10, pp.38
- XVI. **Investigation of the relationship between subliminal stimuli and making a choice**  
Kaya K., Gelir E., Eren F., Taşdemiroğlu N., Yağcıoğlu S.  
14th National Congress of Neuroscience, Ankara, Turkey, 26 - 29 May 2016, vol.10, pp.37

## Supported Projects

2018 - 2022 İnsanlarda Oksitosinin Farklı Korkulu Uyarılara Verilen Nöral Cevaba Etkisi: Kişiler Arası Genetik Varyasyonların Rolü, Project Supported by Higher Education Institutions

## Memberships / Tasks in Scientific Organizations

2021 - Continues The Society for functional Near Infrared Spectroscopy, Member  
2021 - Continues International Society for Optics and Photonics , Member  
2017 - Continues Society for Neuroscience, Member  
2017 - Continues The American Physiological Society , Member  
2017 - Continues Türk Fizyolojik Bilimler Derneği, Member

## Scientific Refereeing

December 2022 SCIENTIFIC REPORTS, Journal Indexed in SCIE  
December 2022 FRONTIERS IN HUMAN NEUROSCIENCE, Journal Indexed in SCIE

## Metrics

Publication: 26  
Citation (WoS): 15  
Citation (Scopus): 53  
H-Index (WoS): 2  
H-Index (Scopus): 3

## Congress and Symposium Activities

2023	48th Turkish Physiology Congress, Attendee, Sakarya, Turkey
2023	1st National Neuroimaging Congress & 2nd Joint German-Turkish Symposium on Human Neuroscience, Attendee, Ankara, Turkey
2021	SPIE Photonics West, Attendee, California, United States Of America
2020	OSA Biophotonics Congress: Biomedical Optics , Attendee, Massachusetts, United States Of America
2019	fNIRS Training Workshop, Attendee, Massachusetts, United States Of America
2018	13th ORPHEUS Conference, Attendee, Reykjavik, Iceland
2017	International Meeting on Education Research in Health Sciences, Attendee, İstanbul, Turkey
2016	14. Ulusal Sinirbilim Kongresi, Attendee, Ankara, Turkey
2014	40. Ulusal Fizyoloji Kongresi, Attendee, Kayseri, Turkey
2013	39. Ulusal Fizyoloji Kongresi, Attendee, Ankara, Turkey

## Scholarships

2019 - 2020	Araştırma Görevlileri için Yurt Dışı Araştırma Bursu, YOK
-------------	---