

## **Asst. Prof. MEHMED SATUK BUĞRAHAN BAYRAM**

### **Personal Information**

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### **International Researcher IDs**

ORCID: 0000-0001-7169-6648

Publons / Web Of Science ResearcherID: AAB-3340-2019

ScopusID: 55943474100

Yoksis Researcher ID: 225973

### **Education Information**

Post Doctorate, Kessler Foundation, Human Performance and Engineering Research, United States Of America 2013 - 2014

Doctorate, Cleveland State University, Chemical And Biomedical Engineering, United States Of America 2007 - 2013

Undergraduate, Bahcesehir University, Faculty Of Engineering, Department Of Computer Engineering, Turkey 2002 - 2005

### **Dissertations**

Doctorate, SCALP EEG AND TMS BASED ELECTROPHYSIOLOGICAL STUDY OF BRAIN FUNCTION OF MOTOR CONTROL IN AGING, Cleveland State University, Chemical And Biomedical Engineering, 2013

### **Research Areas**

Natural Language Processing, Neural Networks, Biosignal Processing, Rehabilitation

### **Academic Titles / Tasks**

Assistant Professor, Rutgers, The State University of New Jersey, Medical School, Physical Medicine and Rehabilitation, 2022 - Continues

Assistant Professor, Acibadem Mehmet Ali Aydinlar University, Faculty Of Engineering and Natural Sciences, Biomedical Engineering, 2015 - Continues

### **Academic and Administrative Experience**

Erasmus Program Institutional Coordinator, Acibadem Mehmet Ali Aydinlar University, 2015 - 2021

Acibadem Mehmet Ali Aydinlar University, 2018 - 2020

### **Courses**

Signals and Systems, Undergraduate, 2018 - 2019  
 Technical Drawing, Undergraduate, 2018 - 2019, 2017 - 2018, 2016 - 2017, 2015 - 2016  
 Medical Informatics, Undergraduate, 2018 - 2019, 2017 - 2018, 2016 - 2017  
 Internet of Things, Undergraduate, 2018 - 2019  
 Internet of Things, Postgraduate, 2018 - 2019  
 Algorithms and Programming, Undergraduate, 2018 - 2019, 2017 - 2018, 2016 - 2017  
 Biosimulation (Signals and Systems), Undergraduate, 2017 - 2018  
 Biomedical Signal Processing, Postgraduate, 2017 - 2018

## Advising Theses

Bayram M. S. B., Finite Element Analysis And Design Optimization Of A Biomimetic Soft Robotic Manipulator For Biomedical Applications, Postgraduate, C.Kurtoğlu(Student), Continues

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

- I. **Aging-induced alterations in EEG spectral power associated with graded force motor tasks.**  
 Bayram M. S. B., Suviseshamuthu E. S., Plow E. B., Forrest G. F., Yue G. H.  
 Experimental brain research, 2023 (SCI-Expanded)
- II. **Safety and effects of a therapeutic 15 Hz rTMS protocol administered at different suprathreshold intensities in able-bodied individuals.**  
 Brihmat N., Alexandre D., Bayram M. S. B., Saleh S., Guan X., Yue G. H., Zhong J., Forrest G. F.  
 Journal of neurophysiology, vol.129, no.1, pp.56-65, 2023 (SCI-Expanded)
- III. **Dynamic Functional Stiffness Index of the Ankle Joint During Daily Living**  
 Bayram H., BAYRAM M. S. B.  
 JOURNAL OF FOOT & ANKLE SURGERY, vol.57, no.4, pp.668-674, 2018 (SCI-Expanded)
- IV. **Application of Empirical Mode Decomposition Combined With Notch Filtering for Interpretation of Surface Electromyograms During Functional Electrical Stimulation**  
 Pilkar R., Yarossi M., Ramanujam A., Rajagopalan V., BAYRAM M. S. B., Mitchell M., Canton S., Forrest G.  
 IEEE TRANSACTIONS ON NEURAL SYSTEMS AND REHABILITATION ENGINEERING, vol.25, no.8, pp.1268-1277, 2017 (SCI-Expanded)
- V. **Weakening of Corticomuscular Signal Coupling During Voluntary Motor Action in Aging**  
 BAYRAM M. S. B., Siemionow V., Yue G. H.  
 JOURNALS OF GERONTOLOGY SERIES A-BIOLOGICAL SCIENCES AND MEDICAL SCIENCES, vol.70, no.8, pp.1037-1043, 2015 (SCI-Expanded)
- VI. **Neurophysiological correlates of aging-related muscle weakness**  
 Plow E. B., Cunningham D. A., Bonnett C., Gohar D., Bayram M. S. B., Wyant A., Varnerin N., Mamone B., Siemionow V., Hou J., et al.  
 JOURNAL OF NEUROPHYSIOLOGY, vol.110, no.11, pp.2563-2573, 2013 (SCI-Expanded)

## Articles Published in Other Journals

- I. **Evaluation of the optimum positioning for a multi-use and wearable pressure ulcer sensor.**  
 Bayram M. S. B., Kaykayoglu C. A.  
 Annual International Conference of the IEEE Engineering in Medicine and Biology Society. IEEE Engineering in Medicine and Biology Society. Annual International Conference, vol.2022, pp.891-893, 2022 (Peer-Reviewed Journal)
- II. **High-Frequency rTMS Combined with Task-Specific Hand Motor Training Modulates Corticospinal**

### **Plasticity in Motor Complete Spinal Cord Injury: A case report.**

Brihmat N., Bayram M. S. B., Allexandre D., Saleh S., Yue G. H., Guan X., Zhong J., Forrest G. F.

Annual International Conference of the IEEE Engineering in Medicine and Biology Society. IEEE Engineering in Medicine and Biology Society. Annual International Conference, vol.2022, pp.2385-2389, 2022 (Peer-Reviewed Journal)

## **Books & Book Chapters**

### **I. Sağlıkta Büyük Veri Yönetimi**

Bayram M. S. B.

in: Teletıp ve Klinik Yapay Zekâ, Nilgün BOZBUĞA, Cengiz YAKINCI, Editor, İnönü Üniversitesi Yayınları, Malatya, pp.55-59, 2022

### **II. Sağlıkta Doğal Dil İşleme**

Bayram M. S. B.

in: Teletıp ve Klinik Yapay Zekâ, Nilgün BOZBUĞA, Cengiz YAKINCI, Editor, İnönü Üniversitesi Yayınları, Malatya, pp.49-54, 2022

### **III. Sağlıkta Yapay Zekanın Geleceği**

BAYRAM M. S. B., AKIN A.

in: Sağlık Bilimlerinde Yapay Zeka, Melih Bulut, Editor, Çağlayan Kitabevi, pp.281-292, 2019

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

### **I. The Ethical Aspects of the Use of Artificial Intelligence Systems in Healthcare, A Qualitative Study (presented in Turkish)**

Işıl Ülman F. Y., Aktaş A., Kahraman F., Çakar T., Bayram M. S. B., Tarcan S. H., Bayrakceken S., Durak B.  
4th International Medical Law Congress, İzmir, Turkey, 8 - 10 January 2021, vol.1, no.1

### **II. Beslenme Araştırmalarında "Büyük Data" nın Rolü**

Bayram M. S. B.

9. ULUSAL SAĞLIKLI YAŞAM KONGRESİ, İstanbul, Turkey, 8 - 11 October 2020, pp.35

### **III. Machine Learning Applications in Healthcare**

Bayram M. S. B., Akın A.

24th Biomedical Science and Technology Symposium (BIOMED2019), İzmir, Turkey, 17 - 20 October 2019, pp.1

### **IV. Ethical Aspects of the Use of Artificial Systems (AI) in Medicine, A Qualitative Study**

Işıl Ülman F. Y., Aktaş A., Kahraman F., Tarcan S. H., Çakar T., Bayram M. S. B., Bayrakceken S., Durak B.  
EACME Annual Conference, Oxford, United Kingdom, 12 - 14 September 2019

### **V. Changes in Prefrontal Cortex's EEG Based Functional Connectivity During Laparoscopic Simulation Training**

Keskin S., Aksoy M. E., Uçrak F., Bayram M. S. B., Özcan İ. A.

2019 41st Annual International Conference of the IEEE Engineering in Medicine & Biology Society (EMBC), Berlin, Germany, 23 - 27 July 2019

### **VI. Eğitimde Disiplinler Arası Uygulamalar: Sağlıkta İnovasyon Metodolojisi "Biyotasarım"**

Argunşah Bayram H., Bayram M. S. B., Şahiner A. M., Altıntaş L., Akın A.

Ulusal Tıp Eğitimi Sempozyumu 2019, Eskişehir, Turkey, 10 - 12 April 2019, vol.1, no.981335, pp.1-2

### **VII. A novel algorithm for individual injury risk mapping with preselected background assessment factors may avoid non-contact injuries with personalized training program**

BAYRAM M. S. B.

Neuroscience 2018, United States Of America, 6 - 10 November 2018

### **VIII. Correlation of hand-eye coordination and successful free shot rate of elite basketball players**

BAYRAM M. S. B.

Neuroscience 2018, United States Of America, 6 - 10 November 2018

- IX. **Non-invasive EEG based assessment of laparoscopic clinical simulation based training with first time users.**

BAYRAM M. S. B.

Neuroscience 2018, San Diego, United States Of America, 3 - 07 November 2018

- X. **Laparoskopik Cerrahi Simülasyonlarında Öğrenme Düzeyinin Elektroensefalografi Sinyal Analizi İle Değerlendirilmesi**

BAYRAM M. S. B.

ELCD (Endoskopik Laparoskopik Cerrahi Derneği) Kongresi 2017, Antalya, Turkey, 19 - 22 April 2017, pp.82

- XI. **Motor Imagery Upper Limb Training Shows Similar Activation and Localization for the Non-dominant and Dominant Sides**

Keskin S., Mencil J., Kaminski L., Marusiak J., Jaskolska A., Chomiak S., Szumowski L., Kaminski B., Bayram M. S. B., Kisiel-Sajewicz K.

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

- XII. **Investigation of Biological Feedback Influence on Posture and Knee Biomechanics During Running**

Yalcin B., Bayram H. A., Bayram M. S. B., Isik A.

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

- XIII. **Minimizing the required number of surface EEG electrodes with focused positioning**

BAYRAM M. S. B.

Society for Neuroscience, 8 - 11 November 2016

- XIV. **Investigation of Biologic Feedback Influence on Knee Biomechanics during Running**

BAYRAM M. S. B.

Society for Neuroscience, 8 - 11 November 2016

- XV. **Neurophysiologic Markers of Aging-Related Muscle Weakness**

Plow E. B., Gohar D., Bayram M. S. B., Hou J., Wyant A., Fang Y., Siemionow V., Yue G. H.

136th Annual Meeting of the American-Neurological-Association (ANA), California, United States Of America, 25 - 27 September 2011, vol.70

## Metrics

Publication: 26

Citation (WoS): 67

Citation (Scopus): 75

H-Index (WoS): 4

H-Index (Scopus): 4