

Assoc. Prof. HANDE ARGUNSAH

Personal Information

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Biography

Hande Argunsah is an assistant professor in Medical Engineering at Acibadem University. Her Ph.D. is in Biomedical Engineering at Cleveland State University and Cleveland Clinic and she carried out postdoctoral research at Kessler Foundation. Her research interests are robotic rehabilitation and human robot interaction.

Education Information

Post Doctorate, Kessler Foundation, Human Performance and Engineering , United States Of America 2014 - 2015

Doctorate, Cleveland State University, faculty of engineering, Biomedical Engineering, United States Of America 2007 - 2013

Postgraduate, Kent State University, Faculty of Engineering, United States Of America 2005 - 2007

Undergraduate, Bahcesehir University, Faculty Of Engineering, Department Of Industrial Engineering, Turkey 2001 - 2005

Foreign Languages

German, A2 Elementary

English, B2 Upper Intermediate

Dissertations

Doctorate, BIOMECHANICS OF PROSTHETIC KNEE SYSTEMS: ROLE OF DAMPENING AND ENERGY STORAGE SYSTEMS, Cleveland State University, faculty of engineering, Chemical and Biomedical Engineering, 2013

Research Areas

Biomedical Engineering, Biomechanics, Motion Analysis, Clinical Robots, Rehabilitation

Academic Titles / Tasks

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

Academic and Administrative Experience

Head of Department, Acibadem Mehmet Ali Aydınlar University, Graduate School Of Natural And Applied Sciences, Biomedical Engineering With Thesis, 2023 - Continues

Uygulama ve Araştırma Merkezi Yönetim Kurulu Üyesi, Acibadem Mehmet Ali Aydınlar University, Faculty Of Engineering and Natural Sciences, Biomedical Engineering, 2020 - Continues

Yükseköğretim Kalite Kurulu Üyesi, Acibadem Mehmet Ali Aydınlar University, Faculty Of Engineering and Natural Sciences, Biomedical Engineering, 2020 - Continues

Rektörlük Stratejik Plan Komisyonu Üyesi, Acibadem Mehmet Ali Aydınlar University, Faculty Of Engineering and Natural Sciences, Biomedical Engineering, 2020 - Continues

Bölüm Kalite Komisyonu Üyesi, Acibadem Mehmet Ali Aydınlar University, Faculty Of Engineering and Natural Sciences, Biomedical Engineering, 2020 - Continues

Akreditasyon, Sürekli Gelişim ve Yenilenme Kurulu Üyesi, Acibadem Mehmet Ali Aydınlar University, Faculty Of Engineering and Natural Sciences, Biomedical Engineering, 2020 - Continues

Bölüm Stratejik Plan Komisyonu Üyesi, Acibadem Mehmet Ali Aydınlar University, Faculty Of Engineering and Natural Sciences, Biomedical Engineering, 2020 - Continues

Vice Dean, Acibadem Mehmet Ali Aydınlar University, Faculty Of Engineering and Natural Sciences, Biomedical Engineering, 2020 - Continues

Rektörlük Kalite Komisyonu Üyesi, Acibadem Mehmet Ali Aydınlar University, Faculty Of Engineering and Natural Sciences, Biomedical Engineering, 2019 - Continues

Enstitü Yönetim Kurulu Üyesi, Acibadem Mehmet Ali Aydınlar University, Faculty Of Engineering and Natural Sciences, Biomedical Engineering, 2019 - Continues

Fakülte Kurulu Üyesi, Acibadem Mehmet Ali Aydınlar University, Faculty Of Engineering and Natural Sciences, Biomedical Engineering, 2019 - Continues

Assistant Director of the Institute, Acibadem Mehmet Ali Aydınlar University, Graduate School Of Natural And Applied Sciences, Biomedical Engineering With Thesis, 2017 - Continues

UZEM Müdürü, Acibadem Mehmet Ali Aydınlar University, Faculty Of Engineering and Natural Sciences, Biomedical Engineering, 2016 - 2020

Courses

Biomechanics, Undergraduate, 2023 - 2024, 2022 - 2023, 2021 - 2022, 2020 - 2021, 2019 - 2020, 2018 - 2019, 2017 - 2018

Advanced Biomechanics, Postgraduate, 2023 - 2024, 2022 - 2023, 2021 - 2022, 2020 - 2021

Biomechanics, Postgraduate, 2023 - 2024, 2022 - 2023, 2021 - 2022, 2020 - 2021, 2019 - 2020, 2018 - 2019

Sağlıkta Girişimcilik, Undergraduate, 2022 - 2023, 2021 - 2022, 2020 - 2021, 2019 - 2020, 2018 - 2019

Introduction to Medical Engineering, Undergraduate, 2023 - 2024, 2022 - 2023, 2021 - 2022, 2020 - 2021, 2019 - 2020, 2018 - 2019, 2017 - 2018

Optimization, Undergraduate, 2023 - 2024, 2022 - 2023, 2021 - 2022, 2020 - 2021, 2019 - 2020, 2018 - 2019, 2017 - 2018

Introduction to Medical Engineering, Undergraduate, 2023 - 2024, 2022 - 2023, 2021 - 2022, 2020 - 2021, 2019 - 2020, 2018 - 2019, 2017 - 2018

Introduction Biomedical Engineering, Undergraduate, 2023 - 2024, 2022 - 2023

Quality Management in Healthcare Systems, Undergraduate, 2022 - 2023, 2021 - 2022, 2020 - 2021, 2019 - 2020, 2018 - 2019, 2017 - 2018

Advising Theses

Argunsah H., AI implementation to Upper Extremity Rehabilitation, Doctorate, B.YALÇIN(Student), Continues

Argunsah H., AI applications in Robotic Rehabilitation, Doctorate, T.Emre(Student), Continues

Argunsah H., Explainable AI Applications in Musculoskeletal Rehabilitation, Doctorate, E.Kaya(Student), Continues

Jury Memberships

Post Graduate, Post Graduate, Acibadem Mehmet Ali Aydinlar University, May, 2023

Doctoral Examination, Doctoral Examination, Acibadem Mehmet Ali Aydinlar University, May, 2023

PhD Thesis Monitoring Committee Member, PhD Thesis Monitoring Committee Member, Acibadem Mehmet Ali Aydinlar University, May, 2023

PhD Thesis Monitoring Committee Member, PhD Thesis Monitoring Committee Member, Acibadem Mehmet Ali Aydinlar University, February, 2022

PhD Thesis Monitoring Committee Member, PhD Thesis Monitoring Committee Member, Acibadem Mehmet Ali Aydinlar University, February, 2022

PhD Thesis Monitoring Committee Member, PhD Thesis Monitoring Committee Member, Acibadem Mehmet Ali Aydinlar Üniversitesi, June, 2019

Published journal articles indexed by SCI, SSCI, and AHCI

- I. **Exploring the Contribution of Joint Angles and sEMG Signals on Joint Torque Prediction Accuracy using LSTM-Based Deep Learning Techniques**
Argunsah H., Kaya E.
COMPUTER METHODS IN BIOMECHANICS AND BIOMEDICAL ENGINEERING, vol.28, no.13, pp.1-10, 2024 (SCI-Expanded)
- II. **Effectiveness of Serial Casting Alone and in Combination with Botulinum Neurotoxin in Pediatric Spastic Cerebral Palsy Patients**
Argunsah H., Bentley K., Androwis G., Higgins L., Nolan K.
ACTA OF BIOENGINEERING AND BIOMECHANICS, vol.25, no.3, pp.87-92, 2023 (SCI-Expanded)
- III. **Balance Control via Tactile Biofeedback in Children with Cerebral Palsy**
ARGUNSAH H., YALÇIN B.
ACTA OF BIOENGINEERING AND BIOMECHANICS, vol.25, no.1, pp.161-171, 2023 (SCI-Expanded)
- IV. **The influence of biofeedback on physiological and kinematic variables of treadmill running**
Bayram H., Yalçın B.
International Journal of Performance Analysis in Sport, vol.21, no.1, pp.156-169, 2021 (SCI-Expanded)
- V. **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)
- VI. **Active functional stiffness of the knee joint during activities of daily living: A parameter for improved design of prosthetic limbs**
Bayram H., Chien C., Davis B. L.
CLINICAL BIOMECHANICS, vol.29, no.10, pp.1193-1199, 2014 (SCI-Expanded)

Articles Published in Other Journals

- I. **Real-time tactile biofeedback device use for improving balance control of an adolescent with medulloblastoma**
ARGUNSAH H., YALÇIN B.
JOURNAL OF ENABLING TECHNOLOGIES, vol.17, no.3/4, pp.73-83, 2023 (ESCI)
- II. **Investigation Of Glenohumeral Internal Rotation Deficit Tendency of Adolescent Female Volleyball**

Players During Passive and Dynamic Movements

Argunsah H.

Türk Spor ve Egzersiz Dergisi, vol.24, no.3, pp.306-313, 2022 (Peer-Reviewed Journal)

III. Real-Time Balance Feedback Mechanism For Orthopedic and Neuromuscular Diseases Rehabilitation Practices

Argunşah Bayram H., Yalçın B.

Acıbadem Sağlık Bilimleri Dergisi, vol.11, no.3, pp.412-417, 2020 (Peer-Reviewed Journal)

IV. Recent Developments in Above-Knee Prosthetics and the Importance of Energy Recovery in Transfemoral Amputee Gait

ARGUNŞAH BAYRAM H.

Acıbadem Sağlık Bilimleri Dergisi, vol.6, no.2, pp.61-68, 2015 (Peer-Reviewed Journal)

Books & Book Chapters

I. Biomimetics- Nature Based Innovation Application of Biomimetics in the Design of Medical Devices

Argunşah Bayram H.

in: Biomimetics: Nature-Based Innovation, Joseph Bar-Kohen, Editor, CRC, New York, New-York, pp.445-460, 2011

Refereed Congress / Symposium Publications in Proceedings

I. KNEE JOINT IMPEDANCE OPTIMIZATIONS FOR DESIGN OF TRANSFEMORAL PROSTHESES

ARGUNŞAH H.

5. HAGIA SOPHIA INTERNATIONAL CONFERENCE ON MULTIDISCIPLINARY SCIENTIFIC STUDIES, İstanbul, Turkey, 17 - 18 October 2022

II. CHANGES IN POSTURAL CONTROL AND KINEMATIC VARIABLES IN RESPONSE TO ANKLE JOINT TAPING IN PROFESSIONAL BASKETBALL PLAYERS

Argunsah H.

EGE International Congress on Innovation Technologies and Engineering, İzmir, Turkey, 2 - 04 September 2022, pp.354-361

III. GLENOHUMERAL INTERNAL ROTATION DEFICIT TENDENCY OF OVERHEAD ATHLETES

ARGUNŞAH H.

VI-INTERNATIONAL EUROPEAN CONFERENCE ON INTERDISCIPLINARY SCIENTIFIC RESEARCH, Budapest, Hungary, 26 August 2022, pp.107-114

IV. Investigation of Glenohumeral Internal Rotation Deficit Tendency of Adolescent Female Volleyball Players with Inertial Measurement Unit Based Motion Capture System during Passive and Dynamic Movements

Yalçın B., Argunsah H.

Neuroscience 2021, Washington, United States Of America, 8 - 11 November 2021, pp.1

V. Changes in postural control and kinematic variables in response to ankle joint taping in professional basketball players

Yalçın B., Argunsah H.

Neuroscience 2021, Washington, United States Of America, 8 - 11 November 2021, pp.1

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. Klinikte Biyolojik Geri Bildirim Uygulamaları

ARGUNŞAH BAYRAM H.

21. Biyomedikal Bilim ve Teknoloji Sempozyumu, Turkey, 15 - 16 December 2018

VIII. Real-Time Balance Feedback Mechanism during Orthopedic and Neuromuscular Disease

Rehabilitation

ARGUNŞAH BAYRAM H.

Society for Neuroscience, 4 - 07 November 2018

IX. Real Time Balance Feedback Mechanism During Orthopedic and Neuromuscular Disease

Rehabilitation

Yalçın B., Argunşah Bayram H.

Society for Neuroscience 2018, California, United States Of America, 3 - 07 November 2018, pp.1

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

Argunşah Bayram H.

Society for Neuroscience 2018, California, United States Of America, 2 - 04 November 2018, pp.149-151

XI. Correlation of hand-eye coordination and successful free shot rate of elite basketball players

Argunşah Bayram H.

Society for Neuroscience 2018, California, United States Of America, 1 - 04 November 2018, pp.356

XII. Biyolojik Geri Beslemenin Koşu Esnasında Vücut Oryantasyonu ve Diz Biyomekaniğine olan Etkisinin İncelenmesi

ARGUNŞAH BAYRAM H.

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

Supported Projects

Argunşah H., TUBITAK Project, İnsan Fonksiyonunu Tehdit Eden Zorluklara Karşı Nöroteknolojik Çözümler Platformu, 2023 - 2026

Argunşah H., Research Project of the Presidency of Turkey Health Institutes (TÜSEB), Çocuklar için yapay zeka destekli taşınabilir egzersiz cihazı geliştirilmesi: Toplum 5.0 evde dijital sağlık ve nesnelerin interneti, 2022 - 2024

Argunşah H., Project Supported by Higher Education Institutions, Proje Adı : 20 yaş altı basketbol oyuncularında ayak bileğinin teyp bandaj ile sargılanmasının postür kontrol ve yaralanma önleme üzerindeki etkilerinin giyilebilir hareket analizi sistemi ile incelemesi, 2021 - 2022

Argunşah H., Yalçın B., Project Supported by Higher Education Institutions, 20 yaş altı basketbol oyuncularında ayak bileğinin teyp bandaj ile yargılanmasının postür kontrol ve yaralanma önleme üzerindeki etkilerinin giyilebilir hareket analizi sistemi ile incelenmesi , 2021 - 2021

Yalçın B., Argunşah Bayram H., Project Supported by Higher Education Institutions, Kablosuz Haberleşme Yöntemi Kullanarak Düşmeyi Algılayan ve İlgili Birimlere Uyarı Veren Giyilebilir Cihaz, 2018 - 2019

ARGUNSAH H., TUBITAK Project, Biyolojik Geri Bildirim Koşu Esnasında Diz Eklemi Biyomekaniğine ve Kalp Ritmine Olan Etkisi, 2015 - 2017

Argunşah H., Project Supported by Public Organizations in Other Countries, Travmatik Beyin Hasarı Olan hastaların rehabilitasyonunda robotik dış iskeletin kullanılması, 2015 - 2017

Memberships / Tasks in Scientific Organizations

Society for Neuroscience, Member, 2018 - Continues, United States Of America

Scientific Refereeing

IEEE TRANSACTIONS ON NEURAL SYSTEMS AND REHABILITATION ENGINEERING, SCI Journal, July 2021

CLINICAL BIOMECHANICS, Journal Indexed in SCI-E, May 2019

Scientific Consultations

Romatem, Scientific Consultancy, Acibadem Mehmet Ali Aydinlar University, Faculty Of Engineering And Natural Sciences, Biomedical Engineering, Turkey, 2024 - Continues

Aktif Yaşam ve Sporcu Sağlığı Kuluçka Programı, Scientific Consultancy, Acibadem Mehmet Ali Aydinlar University, Faculty Of Engineering And Natural Sciences, Biomedical Engineering, Turkey, 2024 - 2024

Metrics

Publication: 23

Citation (WoS): 15

Citation (Scopus): 18

H-Index (WoS): 2

H-Index (Scopus): 3

Congress and Symposium Activities

5. INTERNATIONAL CONFERENCE ON CULTURE, CIVILIZATION AND MULTIDISCIPLINARY STUDIES IN SOCIAL SCIENCES, Session Moderator, İstanbul, Turkey, 2022

International Congress on Innovation Technologies & Engineering, Session Moderator, İstanbul, Turkey, 2022

[INTERNATIONAL EUROPEAN CONFERENCE ON INTERDISCIPLINARY SCIENTIFIC RESEARCH-VI], Invited Speaker, Budapest, Hungary, 2022