

Assoc. Prof. MUSTAFA MERT ANKARALI

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**International Researcher IDs**

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Publons / Web Of Science ResearcherID: B-8088-2015

ScopusID: 36154644100

Yoksis Researcher ID: 264898



## Education Information

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- I. Doctorate, Johns Hopkins University, Department Of Mechanical Engineering At The Whiting School Of Engineering, United States Of America 2010 - 2015
- II. Postgraduate, Middle East Technical University, Graduate School of Natural and Applied Sciences, Elektrik Ve Elektronik Mühendisliği (YI) (Tezli), Turkey 2008 - 2010
- III. Undergraduate, Middle East Technical University, Faculty of Engineering, Makine Mühendisliği Bölümü, Turkey 2003 - 2007

## Dissertations

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- I. Doctorate, Variability, symmetry, and dynamics in human rhythmic motor control, Johns Hopkins University, Department Of Mechanical Engineering At The Whiting School Of Engineering, 2015
- II. Postgraduate, Control of hexapedal pronking through a dynamically embedded spring loaded inverted pendulum template, Middle East Technical University, Graduate School of Natural and Applied Sciences, Elektrik Ve Elektronik Mühendisliği (YI) (Tezli), 2010

## Research Areas

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Information Systems, Communication and Control Engineering, Control and System Engineering, Robotics and Mechatronics Systems, Engineering and Technology

## Academic Titles / Tasks

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- I. Associate Professor, Middle East Technical University, Graduate School of Natural and Applied Sciences, Robotik Anabilim Dalı, 2022 - Continues
- II. Associate Professor, Middle East Technical University, Faculty of Engineering, Department of Electrical and Electronics Engineering, 2018 - Continues

- III. Assistant Professor, Middle East Technical University, Faculty of Engineering, Department of Electrical and Electronics Engineering, 2018 - 2018

## Academic and Administrative Experience

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- I. Deputy Director of Research Institute, Middle East Technical University, Presidency Office, Robotik ve Yapay Zeka Teknolojileri Uygulama ve Araştırma Merkezi (ROMER), 2021 - Continues

## Advising Theses

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- I. Ankaralı M. M., Design, characterization, optimization, modeling and control of a bio-inspired fin based actuator system, Postgraduate, A.DURMAZ(Student), 2024
- II. Ankaralı M. M., MOTION PLANNING AND CONTROL OF UNDERACTUATED SYSTEMS OVER OPTIMIZED TRAJECTORIES, Postgraduate, E.KOYUNCU(Student), 2024
- III. Ankaralı M. M., Analysis and identification of visual-motor integration in human motor control, Postgraduate, A.KILIÇ(Student), 2023
- IV. Ankaralı M. M., Şahin E., Distributed nonlinear model predictive formation control of quadrotor type UAVs in cluttered and dynamic environments, Postgraduate, M.SAMI(Student), 2023
- V. Ankaralı M. M., Recursive least squares estimator based adaptive sliding mode controller for an autonomous underwater vehicle, Postgraduate, S.ÇAKIR(Student), 2023
- VI. Ankaralı M. M., Modeling and control of a fully actuated unmanned surface vehicle, Postgraduate, M.KILINÇ(Student), 2023
- VII. Ankaralı M. M., Hacıncipoğlu A., Localization Performance Estimation With Multi Sensor Fusion, Postgraduate, U.SÜREYYA(Student), 2022
- VIII. ANKARALI M. M., Dynamic modeling and control of underactuated planar bipedal walking, Postgraduate, S.SOVUKLUK(Student), 2022
- IX. Ankaralı M. M., MPC-GRAPH: Nonlinear Feedback Motion Planning Using Sparse Sampling Based Neighborhood Graph, Postgraduate, S.ATASOY(Student), 2022
- X. Ankaralı M. M., Saranlı U., ANALYSIS AND CONTROL OF BODY ATTACHED UNDERACTUATED SPRING MASS RUNNER MORPHOLOGIES, Postgraduate, İ.SEVER(Student), 2022
- XI. ANKARALI M. M., Analysis and control of a bio-inspired aerial vehicle with an actively controlled abdomen-like appendage, Postgraduate, B.GÜNEY(Student), 2022
- XII. Ankaralı M. M., Saranlı A., Feedback motion planning with stochastic model predictive control, Postgraduate, T.DENİZ(Student), 2022
- XIII. ANKARALI M. M., Feedback motion planning of a novel fully actuated unmanned surface vehicle via sequential composition of random elliptical funnels, Postgraduate, O.ÖZDEMİR(Student), 2022
- XIV. Ankaralı M. M., Saranlı U., Stochastic analysis and adaptive control studies in legged systems, Postgraduate, G.DİLŞAD(Student), 2022
- XV. Ankaralı M. M., Kalman filter based state and parameter estimator applications in DC/DC converter systems, Postgraduate, M.YUSUF(Student), 2021
- XVI. Ankaralı M. M., An Efficient Implementation of Online Model Predictive Control with Practical Industrial Applications, Postgraduate, O.ARPACIK(Student), 2021
- XVII. Ankaralı M. M., Analysis and control of a running spring-mass model with an upright trunk based on virtual pendulum concept, Postgraduate, O.KAAN(Student), 2020
- XVIII. Orguner U., Ankaralı M. M., FEEDBACK MOTION PLANNING OF UNMANNED UNDERWATER VEHICLES VIA RANDOM SEQUENTIAL COMPOSITION, Doctorate, E.Ege(Student), 2019
- XIX. Ankaralı M. M., Using an Electronic Gyroscope with Real-Time Microcontroller; Design and Implementation of an Impedance Type Kinesthetic Interface with High Pose, Force and Timing Fidelity, Postgraduate, S.YİĞİT(Student),

2019

- XX. ANKARALI M. M., SARANLI A., Control of an underactuated system around a periodic orbit, Postgraduate, A.DENİZ(Student), 2018
- XXI. ANKARALI M. M., SARANLI A., RG-trees: Trajectory-free feedback motion planning using sparse random reference governor trees, Postgraduate, F.GÖLBOL(Student), 2018

## Designed Lessons

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- I. Ankaralı M. M., Turgut A. E., FUNDAMENTALS & EMERGING TOPICS IN ROBOTICS, Postgraduate, 2021 - 2022

## Taught Courses And Trainings

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- I. Ankaralı M. M., Durmaz A., Sarıtaş Kumru E., Robotikte Uygulamalar, 2023 - 2023

## Designed Courses And Trainings

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- I. Ankaralı M. M., Robotikte Uygulamalar, January 2023

## Research Infrastructure Information

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- I. Şahin E., Koku A. B., Ankaralı M. M., Akbaş E., Cinbiş R. G., Kalkan S., Keysan O., Turgut A. E., Yazıcıoğlu Y., Saranlı U., et al., CENTER FOR ROBOTICS AND ARTIFICIAL INTELLIGENCE, January 2021

## Designed Programs

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- I. Ankaralı M. M., Şahin E., Turgut A. E., Koku A. B., Saranlı U., Saranlı A., Keysan O., Yazıcıoğlu Y., Akbaş E., Ulusoy İ., et al., Doctorate, Robotik Lisansüstü Programı, 2021 - Continues

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

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- I. **Predictive uncertainty in state-estimation drives active sensing**  
Kaan Karagoz O., KILIÇ A., Yusuf Aydin E., ANKARALI M. M., UYANIK İ.  
Bioinspiration & biomimetics, vol.20, no.1, 2024 (SCI-Expanded)
- II. **Feedback motion planning via sequential composition of random elliptical funnels**  
Durmaz A., Ozdemir O., Ankaralı M. M.  
OCEAN ENGINEERING, vol.310, 2024 (SCI-Expanded)
- III. **Design and verification of a parallel elastic robotic leg**  
TANFENER E., KARAGÖZ O. K., CANDAN S. Ş., TURGUT A. E., YAZICIOĞLU Y., ANKARALI M. M., SARANLI U.  
Bioinspiration and Biomimetics, vol.19, no.2, 2024 (SCI-Expanded)
- IV. **Stochastic stability analysis of legged locomotion using unscented transformation**  
Er G. D., Ankaralı M. M.  
BIOINSPIRATION & BIOMIMETICS, vol.18, no.6, 2023 (SCI-Expanded)
- V. **Steady-state hybrid extended Kalman filter based sensorless voltage controller for a phase-shifted**

**full-bridge converter**

Candan M. Y., Ankarali M. M.

IET POWER ELECTRONICS, vol.16, no.1, pp.53-63, 2023 (SCI-Expanded)

- VI. **Trajectory-Free Motion Planning of an Unmanned Surface Vehicle Based on MPC and Sparse Neighborhood Graph**  
Atasoy S., Karagöz O. K., Ankarali M. M.  
IEEE ACCESS, vol.11, pp.47690-47700, 2023 (SCI-Expanded)
- VII. **Analysis and control of a running spring-mass model with a trunk based on virtual pendulum concept**  
Karagoz O. K., Secer G., Ankarali M. M., Saranlı U.  
Bioinspiration and Biomimetics, vol.17, no.4, 2022 (SCI-Expanded)
- VIII. **Obround trees: Sparsity enhanced feedback motion planning of differential drive robotic systems**  
ANKARALI M. M.  
Turkish Journal of Electrical Engineering and Computer Sciences, vol.29, no.3, pp.1539-1553, 2021 (SCI-Expanded)
- IX. **An Efficient Implementation of Online Model Predictive Control With Field Weakening Operation in Surface Mounted PMSM**  
Arpacik O., ANKARALI M. M.  
IEEE ACCESS, vol.9, pp.167605-167614, 2021 (SCI-Expanded)
- X. **Variability in locomotor dynamics reveals the critical role of feedback in task control**  
Uyanik I., Sefati S., Stamper S., Cho K., Ankarali M. M., Fortune E., Cowan N.  
ELIFE, vol.9, 2020 (SCI-Expanded)
- XI. **Feedback motion planning of unmanned surface vehicles via random sequential composition**  
Ege E., Ankarali M. M.  
TRANSACTIONS OF THE INSTITUTE OF MEASUREMENT AND CONTROL, vol.41, pp.3321-3330, 2019 (SCI-Expanded)
- XII. **Frequency-Domain Subspace Identification of Linear Time-Periodic (LTP) Systems**  
Uyanik İ., Saranlı U., Ankarali M. M., Cowan N., Morgül Ö.  
IEEE TRANSACTIONS ON AUTOMATIC CONTROL, vol.64, pp.2529-2536, 2019 (SCI-Expanded)
- XIII. **Complementary spatial and timing control in rhythmic arm movements**  
Nickl R. W., Ankarali M. M., Cowan N. J.  
JOURNAL OF NEUROPHYSIOLOGY, vol.121, pp.1543-1560, 2019 (SCI-Expanded)
- XIV. **State-space identification of switching linear discrete time-periodic systems with known scheduling signals**  
Uyanik I., Hamzacebi H., Ankarali M. M.  
TURKISH JOURNAL OF ELECTRICAL ENGINEERING AND COMPUTER SCIENCES, vol.27, pp.2755-2768, 2019 (SCI-Expanded)
- XV. **Body stiffness and damping depend sensitively on the timing of muscle activation in lampreys**  
Tytel E. D., Carr J. A., Danos N., Wagenbach C., Sullivan C. M., Kiemel T., Cowan N. J., Ankarali M. M.  
INTEGRATIVE AND COMPARATIVE BIOLOGY, vol.58, pp.860-873, 2018 (SCI-Expanded)
- XVI. **Identification of a vertical hopping robot model via harmonic transfer functions**  
Uyanik I., Ankarali M. M., Cowan N. J., SARANLI U., Morgul O.  
TRANSACTIONS OF THE INSTITUTE OF MEASUREMENT AND CONTROL, vol.38, no.5, pp.501-511, 2016 (SCI-Expanded)
- XVII. **Walking dynamics are symmetric (enough)**  
Ankarali M. M., Sefati S., Madhav M. S., Long A., Bastian A. J., Cowan N. J.  
JOURNAL OF THE ROYAL SOCIETY INTERFACE, vol.12, no.108, 2015 (SCI-Expanded)
- XVIII. **Feedback Control as a Framework for Understanding Tradeoffs in Biology**  
Cowan N. J., Ankarali M. M., Dyhr J. P., Madhav M. S., Roth E., Sefati S., Sponberg S., Stamper S. A., Fortune E. S., Daniel T. L.  
INTEGRATIVE AND COMPARATIVE BIOLOGY, vol.54, no.2, pp.223-237, 2014 (SCI-Expanded)
- XIX. **Haptic feedback enhances rhythmic motor control by reducing variability, not improving**

### **convergence rate**

Ankarali M. M., Sen H. T., De A., Okamura A. M., Cowan N. J.

JOURNAL OF NEUROPHYSIOLOGY, vol.111, no.6, pp.1286-1299, 2014 (SCI-Expanded)

XX. **Control of underactuated planar pronking through an embedded spring-mass Hopper template**

Ankarali M. M., Saranlı U.

AUTONOMOUS ROBOTS, vol.30, pp.217-231, 2011 (SCI-Expanded)

XXI. **Analysis and Control of a Dissipative Spring-Mass Hopper with Torque Actuation**

ANKARALI M. M., Saranlı U.

ROBOTICS: SCIENCE AND SYSTEMS VI, pp.41-48, 2011 (SCI-Expanded)

XXII. **Approximate analytic solutions to non-symmetric stance trajectories of the passive Spring-Loaded Inverted Pendulum with damping**

Saranlı U., Arslan O., Ankarali M. M., Morgul O.

NONLINEAR DYNAMICS, vol.62, pp.729-742, 2010 (SCI-Expanded)

XXIII. **Stride-to-stride energy regulation for robust self-stability of a torque-actuated dissipative spring-mass hopper**

Ankarali M. M., Saranlı U.

CHAOS, vol.20, 2010 (SCI-Expanded)

### Articles Published in Other Journals

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I. **Sensörsüz Seri Elastik Tekniği ile Bir Kablo Sürümlü Düzlemsel Mekanizmanın Kontrolü**

Kunduz İ., Durmaz A., Albayrak Ö., Alp T., Ünal P., Ankarali M. M.

Avrupa Bilim ve Teknoloji Dergisi, no.41, pp.324-330, 2022 (Peer-Reviewed Journal)

II. **Giriş Kısıtlı Ters Sarkaç Mekanizmasının Optimal Kontrolü**

SOVUKLUK S., ANKARALI M. M.

European Journal of Science and Technology, vol.0, no.25, pp.247-255, 2021 (Peer-Reviewed Journal)

### Books & Book Chapters

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I. **Modeling, Simulation, and Control of a "Sensorless" Cable-Driven Robot**

Durmaz A., Albayrak Ö., Ünal P., Ankarali M. M.

in: Cable-Driven Parallel Robots. CableCon 2023. Mechanisms and Machine Science, Stéphane Caro, Andreas Pott, Tobias Bruckmann, Editor, Springer Nature, London, pp.197-208, 2023

II. **INERTIAL REDIRECTION OF THRUST FORCES FOR FLIGHT STABILIZATION**

Demir A., Ankarali M. M., Dhyr J., Morgansen K., Daniel T., Cowan N.

in: Adaptive Mobile Robotics, A. K. M. Azad, N. J. Cowan, M. O. Tokhi, G. S. Virk, R. D. Eastman, Editor, World Scientific Publishing, Singapore, pp.239-246, 2012

III. **A DYNAMIC MODEL OF RUNNING WITH A HALF-CIRCULAR COMPLIANT LEG**

Ankarali M. M., Sayginer E., Yazicioğlu Y., Saranlı A., Saranlı U.

in: Adaptive Mobile Robotics, A. K. M. Azad, N. J. Cowan, M. O. Tokhi, G. S. Virk, R. D. Eastman, Editor, World Scientific Publishing, Singapore, pp.425-432, 2012

IV. **Analysis and control of a dissipative spring-mass hopper with torque actuation**

Ankarali M. M., Saranlı U.

in: Robotics: Science and Systems VI, Yoky Matsuoka, Hugh Durrant-Whyte, José Neira, Editor, The MIT Press, Cambridge (MA), USA, Massachusetts, pp.41-48, 2011

V. **An Analytical Solution to the Stance Dynamics of Passive Spring-Loaded Inverted Pendulum with Damping**

Ankarali M. M., Arslan Ö., Saranlı U.

## Refereed Congress / Symposium Publications in Proceedings

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- I. **Enhancing Autonomous Robot Safety through Localization Performance Analysis**  
Bingöl U. S., Hacnecipoğlu A., Ankaralı M. M.  
IEEE International Conference on Automation Science and Engineering (CASE), Bari, Italy, 28 August - 01 September 2024
- II. **3D Feedback Motion Planning Of Unmanned Underwater Vehicles Using Sparsity Enhanced Random Sequential Composition\***  
Ege E., Koyuncu E., Ankaralı M. M.  
IEEE International Conference on Automation Science and Engineering (CASE), Bari, Italy, 28 August - 01 September 2024, pp.3773-3778
- III. **Biyo-esinlenilmiş Yüzgeç Tabanlı Bir Eyleyici Sisteminin Tasarımı, Karakterizasyonu, Optimizasyonu ve Modellenmesi**  
Durmaz A., Ankaralı M. M.  
25. Otomatik Kontrol Ulusal Konferansı, Konya, Turkey, 12 - 14 September 2024, pp.1-6
- IV. **Model-Based Unified State and Phase Estimation for Torque Actuated Dissipative Spring-Mass Runner Using Limited Sensory Information**  
KARAGÖZ O. K., KILIÇ A., ANKARALI M. M.  
2024 European Control Conference, ECC 2024, Stockholm, Sweden, 25 - 28 June 2024, pp.603-608
- V. **Intuitive Force Feedback for Robot-Assisted Load Transport**  
Çelik C., ANKARALI M. M.  
33rd IEEE International Conference on Robot and Human Interactive Communication, ROMAN 2024, California, United States Of America, 26 - 30 August 2024, pp.405-411
- VI. **Contact Consistent Disturbance Estimation for Quadruped Robots**  
Ozden H. C., Tanfener E., Orhon H. E., Banus O. T., Saranlı U., Ankaralı M. M., Turgut A. E.  
20th IEEE International Conference on Automation Science and Engineering, CASE 2024, Bari, Italy, 28 August - 01 September 2024, pp.1081-1087
- VII. **Cascaded Model Predictive Control of Underactuated Bipedal Walking with Impact and Friction Considerations**  
Sovukluk S., Ott C., ANKARALI M. M.  
IEEE-RAS 22nd International Conference on Humanoid Robots (Humanoids), Texas, United States Of America, 12 - 14 December 2023
- VIII. **Distributed Model Predictive Formation Control of Robots with Sampled Trajectory Sharing in Cluttered Environments**  
Satır S., Aktaş Y. F., Atasoy S., ANKARALI M. M., ŞAHİN E.  
IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS), Michigan, United States Of America, 1 - 05 October 2023, pp.9309-9315
- IX. **Modeling, Simulation, and Control of a "Sensorless" Cable-Driven Robot**  
DURMAZ A., Albayrak Ö., Ünal P., ANKARALI M. M.  
6th International Conference on Cable-Driven Parallel Robots, CableCon 2023, Nantes, France, 25 - 28 June 2023, vol.132, pp.197-208
- X. **Motion Control and Planning of a Bio-Inspired Aerial Vehicle with an Actively Controlled Abdomen-Like Appendage**  
GÜNEY B., ANKARALI M. M.  
IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS), Michigan, United States Of America, 1 - 05 October 2023, pp.4734-4741

- XI. **Using Cobots for Additive Manufacturing of Building Elements**  
Özkara E., Meral Akgül Ç., Ankaralı M. M., Yaman U.  
Additive Manufacturing Conference, Aydın, Turkey, 6 - 08 October 2022, pp.143-144
- XII. **Adaptive control of underactuated planar pronking**  
Dilsad Er G., Ankaralı M. M.  
9th IEEE RAS/EMBS International Conference for Biomedical Robotics and Biomechanics (BioRob), Seoul, South Korea, 21 - 24 August 2022
- XIII. **MPC-Graph: Feedback motion planning using sparse sampling based neighborhood graph**  
Karagoz O. K., Atasoy S., Ankaralı M. M.  
2020 IEEE/RSJ International Conference on Intelligent Robots and Systems, IROS 2020, Nevada, United States Of America, 24 October 2020 - 24 January 2021, pp.6797-6802
- XIV. **Characterization of Fixed Points of Spring-Mass Model with a Body Govde Eklenmis Yay-Kutle Modelinin Sabit Noktalarının Karakterizasyonu**  
Karagoz O. K., Sever I., Dilsad Er G., SARANLI U., ANKARALI M. M.  
28th Signal Processing and Communications Applications Conference, SIU 2020, Gaziantep, Turkey, 5 - 07 October 2020
- XV. **Developing a Motion Controller for Autonomous Agricultural Robot Otonom Tarım Robotu İçin Hareket Planlayıcısının Gelistirilmesi**  
GÖLBOL F., Olmez H., Hacinecipoglu A., ANKARALI M. M.  
28th Signal Processing and Communications Applications Conference, SIU 2020, Gaziantep, Turkey, 5 - 07 October 2020
- XVI. **Variability in Locomotor Dynamics Reveals the Critical Role of Feedback in Task Control**  
Uyanik I., Sefati S., Stamper S. A., Cho K., Ankaralı M. M., Fortune E. S., Cowan N. J.  
Annual Meeting of the Society-for-Integrative-and-Comparative-Biology (SICB), Texas, United States Of America, 3 - 07 January 2020, vol.60
- XVII. **Analysis and Control of a Body-Attached Spring-Mass Runner Based on Central Pivot Point Approach**  
Karagoz O. K., Sever I., Saranlı U., Ankaralı M. M.  
IEEE/ASME International Conference on Advanced Intelligent Mechatronics (AIM), ELECTR NETWORK, 6 - 09 July 2020, pp.495-500
- XVIII. **Extended Kalman Filter Based State and Parameter Estimation Method for a Buck Converter Operating in a Wide Load Range**  
Candan M. Y., ANKARALI M. M.  
12th Annual IEEE Energy Conversion Congress and Exposition (IEEE ECCE), Michigan, United States Of America, 10 - 15 October 2020, pp.3238-3244
- XIX. **Characterization of Fixed Points of Spring-Mass Model With a Body**  
Karagoz O. K., Sever I., Er G. D., SARANLI U., ANKARALI M. M.  
28th Signal Processing and Communications Applications Conference (SIU), ELECTR NETWORK, 5 - 07 October 2020
- XX. **Developing a Motion Controller for Autonomous Agricultural Robot**  
GÖLBOL F., Olmez H., Hacinecipoglu A., ANKARALI M. M.  
28th Signal Processing and Communications Applications Conference (SIU), ELECTR NETWORK, 5 - 07 October 2020
- XXI. **28VDC Askeri Baradan Beslenen Yüksek Kazançlı 700VDC Çıkışlı ve Çıkışı Endüktörsüz Tam Köprü Kondansatör Şarjörünün Modellenmesi ve Benzetimi**  
Candan M. Y., Kavak H., Ankaralı M. M.  
Ulusal Savunma Uygulamaları Modelleme ve Simülasyon Konferansı, Ankara, Turkey, 19 - 20 November 2019
- XXII. **Rastgele Sıralı Ardışık Bileşim Kullanarak Hareket Planlama**  
Gölbol F., Ege E., Ankaralı M. M., Saranlı A.  
Türkiye Robotbilim Konferansı, İstanbul, Turkey, 26 - 28 June 2019
- XXIII. **Design of Programmable, High-Fidelity Haptic Paddle**  
Sızlayan S. Y., ANKARALI M. M.

International Aegean Conference on Electrical Machines and Power Electronics (ACEMP) / International Conference on Optimization of Electrical and Electronic Equipment (OPTIM), İstanbul, Turkey, 27 - 29 August 2019, pp.540-546

- XXIV. **Feedback Motion Planning For a Dynamic Car Model via Random Sequential Composition**  
Özcan M., Ankaralı M. M.  
IEEE International Conference on Systems, Man and Cybernetics (SMC), Bari, Italy, 6 - 09 October 2019, pp.4239-4244
- XXV. **Tork ile Harekete Geçen Tek Bacaklı Dağıtıcı Yaylı Kütle Modelinin Kontrolü**  
Sever İ., Ankaralı M. M.  
SAVTEK Savunma Teknolojileri Kongresi, Ankara, Turkey, 27 - 28 June 2018, pp.207-212
- XXVI. **Ritmik metastabil robotik sistemler için verigüdümlü ortalama ilk geçiş zamanı metriği**  
Demir J., Ankaralı M. M.  
Türkiye Robotbilim Konferansı Programı, İstanbul, Turkey, 12 - 14 April 2018, pp.85-91
- XXVII. **Eksik Tahrikli Bir Sistemin Periyodik Yörünge Çevresinde Kontrolü**  
Duyul A. D., Saranlı A., Ankaralı M. M.  
Eksik Tahrikli Bir Sistemin Periyodik Yörünge Çevresinde Kontrolü, İstanbul, Turkey, 12 - 14 April 2018, pp.113-114
- XXVIII. **Dokunsal Uygulamalarda Düşük Çözünürlüklü Döner Enkoderin Jiroskopa Entegrasyonu**  
Sızlayan S. Y., Ankaralı M. M.  
Türkiye Robotbilim Konferansı Programı, İstanbul, Turkey, 12 - 14 April 2018, pp.182-187
- XXIX. **Lineer Bir Sistemin Eş Zamanlı Sistem Belirleme ve Durum Kestirimi**  
Gölbol F., Ankaralı M. M., Saranlı A.  
Türkiye Robotbilim Konferansı Programı, İstanbul, Turkey, 12 - 14 April 2018, pp.243-244
- XXX. **Using noisy work loops to identify the phase-dependent stiffness and damping of muscle in lampreys**  
Tytell E. D., Carr J. A., Danos N., Cowan N. J., Ankaralı M. M.  
Annual Meeting of the Society-for-Integrative-and-Comparative-Biology (SICB), San-Francisco, Costa Rica, 3 - 07 January 2018, vol.58
- XXXI. **Optimization of Physical Parameters of an Underactuated Quadrupedal Robot**  
Karagoz O. K., ANKARALI M. M.  
26th IEEE Signal Processing and Communications Applications Conference (SIU), İzmir, Turkey, 2 - 05 May 2018
- XXXII. **RG-Trees: Trajectory-Free Feedback Motion Planning Using Sparse Random Reference Governor Trees**  
GÖLBOL F., ANKARALI M. M., SARANLI A.  
25th IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS), Madrid, Spain, 1 - 05 October 2018, pp.6506-6511
- XXXIII. **İnsansız Sualtı Aracının ROS Kullanılarak Gazebo Simülatöründe Kontrolü**  
Sızlayan S. Y., Ege E., Ankaralı M. M.  
Ulusal Savunma Uygulamaları Modelleme ve Simülasyon Konferansı, Ankara, Turkey, 21 - 23 November 2017
- XXXIV. **Complementary roles of spatial- and timing-based control during rhythmic arm movements**  
Nickl R., Ankaralı M. M., Cowan N.  
Society for Neuroscience, District-Of-Columbia, United States Of America, 11 - 15 November 2017
- XXXV. **Noisy work loops: A new technique for understanding how muscle intrinsic properties contribute to the non-steady dynamics of rhythmic movements**  
Carr J., Ankaralı M. M., Nicole D., Cowan N., Tytell E.  
INTEGRATIVE AND COMPARATIVE BIOLOGY, Louisiana, United States Of America, 4 - 08 January 2017
- XXXVI. **Modeling Rhythmic Biological Behaviors Using Limited Data**  
Ankaralı M. M., Nicole D., Tytell E., Cowan N.  
Siam Conference On The Life Sciences, Massachusetts, United States Of America, 11 - 15 July 2016
- XXXVII. **Parametric Identification of Hybrid Linear-Time-Periodic Systems**  
Uyanık I., SARANLI U., Morgul O., Aukarah M. M.  
6th IFAC Symposium on System Structure and Control (SSSC), İstanbul, Turkey, 22 - 24 June 2016, vol.49, pp.7-12



- XXXVIII. **How lamprey muscle responds to perturbations during rhythmic motions: Phase-dependent system identification via harmonic transfer functions**  
 Nicole D., Wagenbach C., Ankaralı M. M., Cowan N., Tytell E.  
 INTEGRATIVE AND COMPARATIVE BIOLOGY, California, United States Of America, 3 - 07 January 2016, vol.56, pp.275
- XXXIX. **Time As A Sensorimotor Control Problem: System Identification Of Human Auditory-motor Entrainment**  
 Samson E., Ankaralı M. M., Nickl R., Cowan N.  
 Society For Neuroscience, Michigan, United States Of America, 17 - 21 October 2015
- XL. **Toward Data-Driven Models of Legged Locomotion using Harmonic Transfer Functions**  
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- XLII. **Sensory Weighting in a Rhythmic Ball Bouncing Task**  
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- XLIII. **Independent estimation of input and measurement delays for a hybrid vertical spring-mass-damper via harmonic transfer functions**  
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- XLIV. **System Identification of Rhythmic Hybrid Dynamical Systems via Discrete Time Harmonic Transfer Functions**  
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 53rd IEEE Annual Conference on Decision and Control (CDC), Los-Angeles, Chile, 15 - 17 December 2014, pp.1017-1022
- XLV. **System Identification of Legged Locomotion via Harmonic Transfer Functions and Piecewise LTI Approximation**  
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- XLVI. **Fitting low-order transfer function models to messy biological data**  
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- XLVII. **A DYNAMIC MODEL OF RUNNING WITH A HALF-CIRCULAR COMPLIANT LEG**  
 Ankaralı M. M., SAYGINER E., YAZICIOĞLU Y., SARANLI A., SARANLI U.  
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- XLVIII. **TD-SLIP: A better predictive model for human running**  
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- XLIX. **Analysis And Control Of A Dissipative Spring-mass Hopper With Torque Actuation**  
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- L. **Control of Underactuated Planar Hexapedal Pronking Through a Dynamically Embedded SLIP Monopod**  
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## Supported Projects

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- I. AKGÜL Ç., ANKARALI M. M., DAL H., Project Supported by Higher Education Institutions, P3DPC Effective digital printing of sustainable concretes considering printing delay time and speed, 2022 - Continues
- II. ŞAHİN E., ANKARALI M. M., KALKAN S., SARANLI U., YAZICIOĞLU Y., CİNBIŞ R. G., CB Strateji ve Bütçe Başkanlığı (Kalkınma Bakanlığı) Projesi, Robotik Teknolojileri Araştırma, Geliştirme ve Eğitim Merkezi (ROMER), 2019 - Continues
- III. Ankaralı M. M., Saranlı A., Saranlı U., Turgut A. E., Kılıç A., Project Supported by Other Private Institutions, Bacaklı Robotik Sistemleri Geliştirilmesi Projesi , 2024 - 2025
- IV. Ankaralı M. M., Bulu G., Uyanık İ., TUBITAK Project, Çoklu Duyusal Entegrasyon Ve Dinamik Duyusal Ağırlıklandırmanın Sistem Tanıyımı, 2023 - 2025
- V. Ankaralı M. M., Sürer E., TUBITAK Project, Robot Kontrolcülerini Onarmak İçin Zamansal Mantık Kullanan Veri Odaklı Bir Yaklaşım, 2022 - 2025
- VI. Alatan A. A., Ankaralı M. M., Saranlı A., Kalkan S., Köksal A., Project Supported by Defense Industry, INTEGRATION OF IMAGE PROCESS ALGORITHMS INTO NAVIGATION APPLICATIONS PROJECT, 2022 - 2024
- VII. Ankaralı M. M., TUBITAK Project, Robotikte Uygulamalar, 2022 - 2023
- VIII. Ankaralı M. M., Technopark, PAYLAŞIMLI OTONOMİ ALTYAPISI İLE AĞIR YÜKLERİN KALABALIK VE DAR ORTAMLARDA KOLAY VE GÜVENLİ BİR ŞEKİLDE TAŞINMASINI SAĞLAYACAK MOTORIZED EDİLMİŞ AKILLI BİR MOBİL PLATFORMUN GELİŞTİRİLMESİ PROJESİ, 2022 - 2023
- IX. Ankaralı M. M., Saranlı A., Turgut A. E., Kılıç A., Technopark, Özgün Bir Bacaklı Robotik Sistemin Donanımsal ve Yazılımsal Mimarı Tasarımı Projesi , 2022 - 2023
- X. Ankaralı M. M., Technopark, Model Tabanlı Alt Sistem Geliştirme, 2022 - 2023
- XI. Ulusoy I., Halıcı U., Bayram B., Ankaralı M. M., Temizel A., Gençer N. G., Akar G., Ertekin Bolelli Ş., Turgut A. E., Son Ç. D., et al., CB Strateji ve Bütçe Başkanlığı (Kalkınma Bakanlığı) Projesi, NÖROM Nörobilim ve Nöroteknoloji Mükemmeliyet Merkezi, 2020 - 2023
- XII. Ankaralı M. M., TUBITAK Project, Feedback Motion Planning of an Unmanned Surface Vehicle via Random Sequential Composition, 2020 - 2022
- XIII. Ankaralı M. M., Project Supported by Other Private Institutions, Konum Bazlı Seçilebilir Otonomi Seviyesine Sahip Tarım Aracı Yönlendirme ve Kontrol Sistemi , 2020 - 2021
- XIV. ANKARALI M. M., TUBITAK Project, Rastgele Sıralı Kompozisyon Yoluyla Bir İnsansız Su Üstü Aracının Geri Beslemeli Hareket Planlaması, 2018 - 2021
- XV. Ankaralı M. M., Ünal P., Project Supported by Other Private Institutions, Cognitwin, 2020 - 2020
- XVI. Ankaralı M. M., Project Supported by Other Private Institutions, Akıllı Robotik Tedavi Sistemi , 2019 - 2020
- XVII. ANKARALI M. M., SIZLAYAN S. Y., KARAGÖZ O. K., Project Supported by Higher Education Institutions, Algı-motor entegrasyonunu araştırmak için düşük maliyetli, ancak yüksek bant genişliğine sahip bir deney sistemi geliştirilmesi, 2018 - 2020
- XVIII. Tekinalp O., Kurtuluş D. F., Yaman Y., Şahin M., Sezer Uzol N., Ciğeroğlu E., Leblebicioğlu M. K., Ankaralı M. M., Project Supported by Other Private Institutions, Küçük Otonom İnsansız Hava Aracı Geliştirme Projesi (KO-İHA), 2019 - 2019
- XIX. Ankaralı M. M., Project Supported by Other Private Institutions, ESNEK OTOMOTİV ÜRETİM HATLARI İÇİN DEĞİŞKEN ÜRETİME UYUMLU AKILLI SANAL KONVEYÖR SİSTEMİ , 2018 - 2019
- XX. ANKARALI M. M., GÖLBOL F., SIZLAYAN S. Y., Project Supported by Higher Education Institutions, Ritmik Bir Davranışının Sistem Tanımlaması ve Analizi, 2018 - 2019

## Contractual Researches

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- I. Saranlı U., Ankaralı M. M., Orta Doğu Teknik Üniversitesi Teknoloji Transfer Ofisi, Kablo tahrikli robotlarda hassas konum ve kuvvet kontrolü, 2018 - 2019

## Activities in Scientific Journals

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- I. Gazi Üniversitesi Mühendislik ve Mimarlık Fakültesi Dergisi, Editor, 2023 - Continues
- II. TURKISH JOURNAL OF ELECTRICAL ENGINEERING AND COMPUTER SCIENCES, Editor, 2018 - Continues

## Memberships / Tasks in Scientific Organizations

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- I. IEEE Robotics and Automation Society, Member, 2021 - Continues, United States Of America
- II. Institute of Electrical and Electronics Engineers, Member, 2020 - Continues, United States Of America

## Scientific Consultations

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- I. Milvus Teknoloji Mekatronik Müh. San. Tic. Ltd. Şti. , Project Consultancy, Middle East Technical University, Faculty of Engineering, Department of Electrical and Electronics Engineering, Turkey, 2018 - 2019

## Tasks In Event Organizations

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- I. Ankaralı M. M., Robotikte Uygulamalar, Science / Art Camp or Summer School Organization, Ankara, Turkey, Şubat 2023

## Metrics

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Publication: 80  
Citation (WoS): 459  
Citation (Scopus): 561  
H-Index (WoS): 11  
H-Index (Scopus): 12

## Congress and Symposium Activities

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- I. 2018 IEEE/RJS International Conference on Intelligent Robots and Systems, Working Group, Madrid, Spain, 2018

## Invited Talks

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- I. Mühendislik ve Doğa Bilimleri Fakülte Semineri Akademik Seminerler Serisi, Seminar, Sabancı Üniversitesi, Turkey, April 2022
- II. METU Graduate School of Informatics, Seminar, Orta Doğu Teknik Üniversitesi, Turkey, March 2022

## Awards

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- I. Uysal E., Kaya O., Ankaralı M. M., 2024 - Eşik Üstü Ödülü, Tübitak, May 2020
- II. Ankaralı M. M., Akgün S. A., Özdemir O., Açıkgöz U., 2242 Öncelikli Alanlarda Üniversite Öğrencileri Proje Yarışması -

Ankara Bölge (Ülke Çapında Toplam 6 Bölge), Tübitak Bideb, June 2019

- III. Ankaralı M. M., Tuncer B., Öztürk A. S., Geçimli U. C., 2242 Öncelikli Alanlarda Üniversite Öğrencileri Proje Yarışması - Samsun Bölge (Ülke Çapında Toplam 6 Bölge), Tübitak Bideb, October 2018
- IV. Ankaralı M. M., Üzel D., Özdemir O., Kılınç M., 2242 Öncelikli Alanlarda Üniversite Öğrencileri Proje Yarışması, Samsun Bölge (Ülke Çapında Toplam 6 Bölge), Tübitak Bideb, October 2018
- V. Ankaralı M. M., Siebel Scholars Class of 2015, Siebel Foundation, August 2015