

Assoc. Prof. ONUR CİHAN

Personal Information

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International Researcher IDs

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Publons / Web Of Science ResearcherID: AAR-9152-2020

ScopusID: 35776006100

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Biography

Dr. Cihan was born in Ankara, Turkey. He received BS degrees in Control Engineering and Electrical Engineering from **Istanbul Technical University** in 2007. He got MS and PhD degrees in Electrical and Electronics Engineering from **Bogazici University** in 2009 and 2014, respectively. His PhD thesis was on convergence rate optimization of distributed consensus algorithms, which received the best PhD dissertation award from Bogazici University in 2014. From February 2014 until March 2015, he worked at Migros Research and Development Center, Turkey. In May 2015, he started working as a post doctoral researcher at Center for Systems Science, **Yale University**, New Haven, CT, before joining the Department of Electrical and Electronic Engineering at **Marmara University** in 2016. His research interests are in the areas of mathematical systems theory, multi-agent systems, distributed control and data mining.

Education Information

Doctorate, Bogazici University, Institute Of Science, Elektrik-Elektronik Mühendisliği (Dr), Turkey 2009 - 2014

Postgraduate, Bogazici University, Institute Of Science, Elektrik-Elektronik Mühendisliği (YI) (Tezli), Turkey 2007 - 2009

Undergraduate, Istanbul Technical University, Elektrik-Elektronik, Elektrik Mühendisliği, Turkey 2003 - 2007

Undergraduate Double Major, Istanbul Technical University, Elektrik-Elektronik Fakültesi, Kontrol Ve Otomasyon Mühendisliği Bölümü, Turkey 2003 - 2007

Foreign Languages

English, C2 Mastery

Dissertations

Doctorate, Convergence rate analysis and optimization of distributed consensus algorithms, Boğaziçi Üniversitesi, Fen Bilimleri Enstitüsü, Elektrik-Elektronik Mühendisliği (Dr), 2014

Postgraduate, Distributed synchronization in delayed and topology varying networks, Boğaziçi Üniversitesi, Fen Bilimleri Enstitüsü, Elektrik-Elektronik Mühendisliği (YI) (Tezli), 2009

Research Areas

Control and System Engineering, Distributed Control Systems, Nonlinear Systems

Academic Titles / Tasks

Associate Professor, Marmara University, Faculty of Engineering, Electrical and Electronics Engineering, 2022 - Continues

Assistant Professor, Marmara University, Faculty of Engineering, Electrical and Electronics Engineering, 2016 - Continues

Academic and Administrative Experience

Deputy Head of Department, Marmara University, Faculty of Engineering, Elektrik-Elektronik Mühendisliği Bölümü, 2017 - Continues

Courses

Elektrik Mühendisliğine Giriş, Undergraduate, 2020 - 2021, 2019 - 2020, 2018 - 2019, 2017 - 2018, 2016 - 2017

Mühendislik Projesi II, Undergraduate, 2020 - 2021, 2019 - 2020, 2018 - 2019, 2017 - 2018, 2016 - 2017

Kontrol Kuramında Seçilmiş Konular, Postgraduate, 2019 - 2020, 2017 - 2018

Mühendislik Projesi I, Undergraduate, 2020 - 2021, 2019 - 2020, 2018 - 2019, 2017 - 2018, 2016 - 2017

Doğrusal Olmayan Sistemler, Doctorate, 2020 - 2021, 2019 - 2020, 2018 - 2019, 2017 - 2018

Computer Tools for Electrical Engineering, Undergraduate, 2020 - 2021, 2019 - 2020, 2018 - 2019, 2017 - 2018, 2016 - 2017

Doğrusal Olmayan Kontrol Sistemleri, Undergraduate, 2017 - 2018

Geribeslemeli Kontrol Sistemleri, Postgraduate, 2016 - 2017

Mühendisler için Akademik Sunum Becerileri, Undergraduate, 2017 - 2018, 2016 - 2017

Doğrusal Sistem Kuramı, Postgraduate, 2016 - 2017

Advising Theses

Cihan O., Satellite Attitude control with Thrusters and Reaction Wheels in Station Keeping Maneuver, Postgraduate, K.Üçüncü(Student), 2021

Cihan O., ANALYSIS OF A DISTRIBUTED ALGORITHM FOR SOLVING LINEAR EQUATIONS, Postgraduate, O.MECNUN(Student), 2019

Jury Memberships

Doctoral Examination, Doctoral Examination, Marmara Üniversitesi, November, 2020

Doctoral Examination, Doctoral Examination, Marmara Üniversitesi, November, 2020

Doctoral Examination, Doctoral Examination, Marmara Üniversitesi, March, 2020

Post Graduate, Post Graduate, Boğaziçi Üniversitesi, May, 2019

Post Graduate, Post Graduate, Boğaziçi Üniversitesi, July, 2018

Published journal articles indexed by SCI, SSCI, and AHCI

- I. **Cluster consensus for inherently nonlinear cooperative networks**
Develer Ü., CİHAN O., Akar M.
International Journal of Robust and Nonlinear Control, vol.34, no.3, pp.1921-1938, 2024 (SCI-Expanded)
- II. **Cluster consensus with first and higher-order antagonistic interaction dynamics**
Develer Ü., CİHAN O., Akar M.
Neurocomputing, vol.529, pp.33-47, 2023 (SCI-Expanded)
- III. **Stability analysis and controller design for consensus in discrete-time networks with heterogeneous agent dynamics**
CİHAN O.
ASIAN JOURNAL OF CONTROL, vol.25, no.1, pp.77-87, 2023 (SCI-Expanded)
- IV. **Multi-consensus of second-order agents in discrete-time directed networks**
Cihan O., Akar M.
INTERNATIONAL JOURNAL OF SYSTEMS SCIENCE, vol.51, no.10, pp.1847-1861, 2020 (SCI-Expanded)
- V. **Necessary and Sufficient Conditions for Group Consensus of Agents With Third-Order Dynamics in Directed Networks**
CİHAN O., Akar M.
JOURNAL OF DYNAMIC SYSTEMS MEASUREMENT AND CONTROL-TRANSACTIONS OF THE ASME, vol.142, no.4, 2020 (SCI-Expanded)
- VI. **TOPOLOGY DESIGN FOR GROUP CONSENSUS IN DIRECTED MULTI-AGENT SYSTEMS**
CİHAN O.
KYBERNETIKA, vol.56, no.3, pp.578-597, 2020 (SCI-Expanded)
- VII. **Fastest random walk on a path**
CİHAN O., AKAR M.
INTERNATIONAL JOURNAL OF SYSTEMS SCIENCE, vol.50, no.1, pp.1-7, 2019 (SCI-Expanded)
- VIII. **Analysis of distributed consensus protocols with multi-equilibria under time-delays**
Erkan O. F., CİHAN O., AKAR M.
JOURNAL OF THE FRANKLIN INSTITUTE-ENGINEERING AND APPLIED MATHEMATICS, vol.355, no.1, pp.332-360, 2018 (SCI-Expanded)
- IX. **Fastest Mixing Reversible Markov Chains on Graphs With Degree Proportional Stationary Distributions**
Cihan O., Akar M.
IEEE TRANSACTIONS ON AUTOMATIC CONTROL, vol.60, no.1, pp.227-232, 2015 (SCI-Expanded)
- X. **Effect of nonuniform varying delay on the rate of convergence in averaging-based consensus**
Cihan O., Akar M.
TURKISH JOURNAL OF ELECTRICAL ENGINEERING AND COMPUTER SCIENCES, vol.23, no.4, pp.1069-1080, 2015 (SCI-Expanded)

Articles Published in Other Journals

- I. **Çok Etmenli Sistemlerde Bir Dağıtık Denklem Çözüm Algoritmasının Yakınsama Hızı En İyilemesi**
Cihan O.
European Journal of Science and Technology, no.26, pp.262-269, 2021 (Peer-Reviewed Journal)
- II. **Control Allocation of a GEO Satellite for Station-Keeping and Momentum Management by Using Thrusters and Reaction Wheels**
Üçüncü Emri K., Cihan O.
European Journal of Science and Technology, no.26, pp.374-382, 2021 (Peer-Reviewed Journal)
- III. **Yol Aydınlatma Probleminin Çok Etmenli Ağlarda Dağıtık Çözümü**
Cihan O.
Distributed Solution of Road Lighting Problem Over Multi-Agent Networks, vol.3, no.2, pp.89-98, 2020 (Peer-Reviewed Journal)

Refereed Congress / Symposium Publications in Proceedings

- I. **Control Allocation of a GEO Satellite For Station-Keeping and Momentum Management by Using Thrusters and Reaction Wheels**
Üçüncü Emri K., Cihan O.
3rd International Congress on Human-Computer Interaction, Optimization and Robotic Applications, 11 - 13 June 2021, pp.78
- II. **Çok Etmenli Sistemlerde Bir Dağıtık Denklem Çözüm Algoritmasının Yakınsama Hızı En İyilemesi**
Cihan O.
3rd International Congress on Human-Computer Interaction, Optimization and Robotic Applications, 11 - 13 June 2021, pp.77
- III. **Rapid Solution of Linear Equations with Distributed Algorithms over Networks**
CİHAN O.
19th IFAC International Conference on International Stability, Technology and Culture TECIS 2019, Sozopol, Bulgaria, 26 - 28 September 2019
- IV. **Bir Trafik Ağı Probleminin Sürekli-Zamanlı Dağıtık Algoritma Kullanılarak Çözümü**
ÇİFTÇİ O., CİHAN O.
21. Otomatik Kontrol Ulusal Toplantısı TOK 2019, Turkey, 11 - 14 September 2019
- V. **Salp Sürüsü Optimizasyon Algoritması ile Yüksek Dereceli Oydaşımında Parametre Optimizasyonu**
CİHAN O., ERKAN Ö. F.
21. Otomatik Kontrol Ulusal Toplantısı TOK 2019, Turkey, 11 - 14 September 2019
- VI. **Modelling and Coordination of a Swarm of Quadrotors Using Lagrange Dynamics and Potential Functions**
HALCI B., GAZİ V., CİHAN O.
24th IEEE International Conference on Emerging Technologies and Factory Automation ETFA 2019, Zaragoza, Spain, Spain, 10 - 13 September 2019
- VII. **Cluster Consensus in Directed Networks with m-th Order Discrete-time Agent Dynamics**
CİHAN O., AKAR M.
19th Yale Workshop on Adaptive and Learning Systems, 10 - 12 June 2019, pp.131-138
- VIII. **Analysis of Second Order Cluster Consensus for Directed Networks with Time Delay**
CİHAN O., Akar M.
7th IFAC Symposium on System Structure and Control (SSSC) jointly held with the 15th IFAC Workshop on Time Delay Systems (TDS), Sinaia, Romania, 9 - 11 September 2019, vol.52, pp.31-36
- IX. **Distributed Localization in Wireless Sensor Networks**
Cihan O.
International Conference on Engineering Technology and Applied Sciences, Skopje, Macedonia, 17 - 21 July 2018, pp.189-192
- X. **Yönlü Bilgi Değişimine Sahip Çok Etmenli Ağlarda Dağıtık Kapsama Denetimi**
CİHAN O., ERKAN Ö. F., AKAR M.
OTOMATİK KONTROL TÜRK MİLLÎ KOMİTESİ ULUSAL TOPLANTISI (TOK 2017), Turkey, 21 - 23 September 2017
- XI. **Ağırlıklandırma Yöntemlerinin Doğrusal Denklemlerin Çözümü için Kullanılan Dağıtık bir Algoritmanın Yakınsama Hızına Etkisi**
DURU O. M., CİHAN O.
OTOMATİK KONTROL TÜRK MİLLÎ KOMİTESİ ULUSAL TOPLANTISI (TOK 2017), Turkey, 21 - 23 September 2017
- XII. **Distributed Consensus with Multi-Equilibria in Directed Networks**
Erkan O. F., CİHAN O., AKAR M.
American Control Conference (ACC), Washington, United States Of America, 24 - 26 May 2017, pp.4681-4685
- XIII. **Distributed Sensor Calibration with Minimum Connections in Wireless Sensor Networks**
CİHAN O., Erkan O. F., AKAR M.
25th Signal Processing and Communications Applications Conference (SIU), Antalya, Turkey, 15 - 18 May 2017
- XIV. **Telsiz Algılayıcı Ağlarında Minimum Bağlantılı Dağıtık Algılayıcı Kalibrasyonu**

CİHAN O., ERKAN Ö. F., AKAR M.

25th Signal Processing and Communications Applications Conference SIU 2017, Antalya, Turkey, Turkey, 15 - 18 May 2017

XV. Mixing Rate Optimization of Markov Chains with Degree Proportional Stationary Distributions

Cihan O.

17th Yale Workshop on Adaptive and Learning Systems, Connecticut, United States Of America, 24 - 26 June 2015, pp.115-119

XVI. Dereceyle oransal duragan dağılıma sahip en hızlı karışan tersinir Markov zincirleri

CİHAN O., AKAR M.

Otomatik Kontrol Ulusal Toplantısı 2014, Turkey, 11 - 13 September 2014

XVII. Hava sıcaklığının ve hava olaylarının perakende sektöründe satışlara etkisi Migros Ticaret A Ş uygulaması

CİHAN O., KADIOĞLU A., ÖZTÜRK I., ÜMMETOĞLU S.

Yöneylem Araştırması ve Endüstri Mühendisliği 34. Ulusal Kongresi, Turkey, 25 - 27 June 2014

XVIII. On the effect of non-uniform transmission delays in distributed consensus Bir örnek olmayan iletim gecikmesinin dağıtık onaylaşma etkisi

Cihan O., Akar M.

18th IEEE Signal Processing and Communications Applications Conference, SIU 2010, Diyarbakır, Turkey, 22 - 24 April 2010, pp.29-32

XIX. İlingesi Değişen Ağlarda Ortalama Tabanlı Dağıtık Eşzamanlama ve Sürekli Zamanda Analizi

CİHAN O., AKAR M.

Otomatik Kontrol Ulusal Toplantısı 2010, Turkey, 21 - 23 September 2010

XX. Effect of Bounded Delay on Convergence Speed of Distributed Consensus Algorithms

Cihan O., Akar M.

IEEE International Conference on Control and Automation, Christchurch, New Zealand, 9 - 11 December 2009, pp.909-913

Supported Projects

Akar M., Cihan O., TUBITAK Project, Yüksek Dereceli Sistemler İçin Takım Onaylaşım Algoritmalarının Geliştirilmesi, 2018 - 2021

Cihan O., TUBITAK Project, ÇOK ETMENLİ AĞLARDA DOĞRUSAL DENKLEMLERİN ÇÖZÜMÜ İÇİN DAĞITIK ALGORİTMALAR, 2018 - 2021

Akar M., TUBITAK Project, Telsiz Algılayıcı Ağlarında Dağıtık Eşzamanlama Algoritmaları, 2008 - 2010

Memberships / Tasks in Scientific Organizations

Otomatik Kontrol Türk Milli Komites, Member, 2017 - Continues, Turkey

Scientific Refereeing

PROCEEDINGS OF THE INSTITUTION OF MECHANICAL ENGINEERS PART I-JOURNAL OF SYSTEMS AND CONTROL ENGINEERING, Journal Indexed in SCI-E, November 2020

IEEE TRANSACTIONS ON SIGNAL AND INFORMATION PROCESSING OVER NETWORKS, Journal Indexed in SCI-E, November 2019

IEEE TRANSACTIONS ON SIGNAL AND INFORMATION PROCESSING OVER NETWORKS, SCI Journal, August 2019

IEEE TRANSACTIONS ON AUTOMATIC CONTROL, SCI Journal, December 2018

JOURNAL OF THE FRANKLIN INSTITUTE-ENGINEERING AND APPLIED MATHEMATICS, SCI Journal, December 2018

JOURNAL OF THE FRANKLIN INSTITUTE-ENGINEERING AND APPLIED MATHEMATICS, Journal Indexed in SCI-E, October 2018
AUTOMATICA, SCI Journal, June 2018
JOURNAL OF THE FRANKLIN INSTITUTE-ENGINEERING AND APPLIED MATHEMATICS, Journal Indexed in SCI-E, May 2018
IEEE TRANSACTIONS ON AUTOMATIC CONTROL, SCI Journal, April 2018
IEEE TRANSACTIONS ON AUTOMATIC CONTROL, SCI Journal, April 2018
JOURNAL OF THE FRANKLIN INSTITUTE-ENGINEERING AND APPLIED MATHEMATICS, Journal Indexed in SCI-E, April 2018
JOURNAL OF THE FRANKLIN INSTITUTE-ENGINEERING AND APPLIED MATHEMATICS, Journal Indexed in SCI-E, February 2018
JOURNAL OF THE FRANKLIN INSTITUTE-ENGINEERING AND APPLIED MATHEMATICS, Journal Indexed in SCI-E, January 2018
IEEE TRANSACTIONS ON AUTOMATIC CONTROL, SCI Journal, January 2018
INTERNATIONAL JOURNAL OF ADAPTIVE CONTROL AND SIGNAL PROCESSING, Journal Indexed in SCI-E, January 2018
JOURNAL OF THE FRANKLIN INSTITUTE-ENGINEERING AND APPLIED MATHEMATICS, Journal Indexed in SCI-E, January 2018
AUTOMATICA, SCI Journal, January 2018
INTERNATIONAL JOURNAL OF ADVANCED ROBOTIC SYSTEMS, Journal Indexed in SCI-E, November 2017
JOURNAL OF THE FRANKLIN INSTITUTE-ENGINEERING AND APPLIED MATHEMATICS, Journal Indexed in SCI-E, September 2017
JOURNAL OF THE FRANKLIN INSTITUTE-ENGINEERING AND APPLIED MATHEMATICS, Journal Indexed in SCI-E, August 2017
IEEE TRANSACTIONS ON AUTOMATIC CONTROL, SCI Journal, August 2017
JOURNAL OF THE FRANKLIN INSTITUTE-ENGINEERING AND APPLIED MATHEMATICS, Journal Indexed in SCI-E, May 2017
INTERNATIONAL JOURNAL OF SYSTEMS SCIENCE, Journal Indexed in SCI-E, April 2017
IEEE TRANSACTIONS ON CONTROL OF NETWORK SYSTEMS, SCI Journal, March 2017
ASIAN JOURNAL OF CONTROL, Journal Indexed in SCI-E, May 2016

Mobility Activity

Post Doc, Post Doc, Yale University, United States Of America, 2015 - 2016

Metrics

Publication: 34
Citation (WoS): 45
Citation (Scopus): 27
H-Index (WoS): 4
H-Index (Scopus): 2

Scholarships

Yurt dışı doktora sonrası araştırma burs programı, TUBITAK, 2015 - 2016

Awards

Cihan O., BAP Doktora Tez Ödülü, Boğaziçi Üniversitesi Bilimsel Araştırma Projeleri, July 2014

Non Academic Experience

Migros Ticaret A.Ş.