

## Assoc. Prof. SAMET GÜLER

### Personal Information

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### International Researcher IDs

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### Education Information

Doctorate, University of Waterloo, Engineering, Mechanical and Mechatronics Engineering , Canada 2012 - 2015

### Research Areas

System Dynamics and Control, Robotics, Mechatronics, Modeling and Simulation of Dynamic Systems

### Academic Titles / Tasks

Assistant Professor, Abdullah Gul University, Mühendislik Fakültesi, Elektrik-Elektronik Mühendisliği, 2019 - Continues

### Courses

Modeling and Control of Dynamical Systems, Undergraduate, 2022 - 2023

INTRODUCTION TO SCIENTIFIC RESEARCH METHODS AND SCIENTIFIC PUBLICATION ETHICS , Postgraduate, 2021 - 2022

Autonomous Mobile Robots, Postgraduate, 2021 - 2022

Introduction to Robotics, Postgraduate, 2021 - 2022

Robotic system design capsule, Undergraduate, 2021 - 2022

Embedded control systems capsule, Undergraduate, 2021 - 2022

### Advising Theses

Güler S., Collaborative multi-robot formation control using deep learning approaches, Doctorate,

K.Monhamady(Student), Continues

Güler S., An autonomous heterogeneous multi-robot system design for early fire detection, Postgraduate,

Ö.Faruk(Student), 2022

Güler S., Coordinated target detection and tracking by drones using distance and vision, Postgraduate, H.Halid(Student), 2022

Güler S., Relative localisation and coordination of air-ground robot teams, Postgraduate, İ.Emre(Student), 2021

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

- I. **A distributed relative localization approach for air-ground robot formations with onboard sensing**  
GÜLER S., Yıldırım İ. E.  
Control Engineering Practice, vol.135, 2023 (SCI-Expanded)
- II. **Distributed Formation Control of Drones With Onboard Perception**  
Kabore K. M., GÜLER S.  
IEEE/ASME Transactions on Mechatronics, vol.27, no.5, pp.3121-3131, 2022 (SCI-Expanded)
- III. **Peer-to-Peer Relative Localization of Aerial Robots With Ultrawideband Sensors**  
GÜLER S., Abdelkader M., Shamma J. S.  
IEEE TRANSACTIONS ON CONTROL SYSTEMS TECHNOLOGY, vol.29, no.5, pp.1981-1996, 2021 (SCI-Expanded)
- IV. **Perception, navigation, and manipulation in the team KAUST approach to the MBZIRC ground robotics challenge**  
Guler S., Algarni M. A., Shaqura M. Z., Jaleel H., Mabrok M. A., Jiang J., Lu Y., Shamma J. S.  
JOURNAL OF FIELD ROBOTICS, vol.36, no.5, pp.973-1003, 2019 (SCI-Expanded)
- V. **Target capture and station keeping of fixed speed vehicles without self-location information**  
Guler S., Fidan B.  
EUROPEAN JOURNAL OF CONTROL, vol.43, pp.1-11, 2018 (SCI-Expanded)
- VI. **Adaptive Source Localization Based Station Keeping of Autonomous Vehicles**  
Guler S., Fidan B., Dasgupta S., Anderson B. D. O., Shames I.  
IEEE TRANSACTIONS ON AUTOMATIC CONTROL, vol.62, no.7, pp.3122-3135, 2017 (SCI-Expanded)
- VII. **Least-squares-based adaptive target localization by mobile distance measurement sensors**  
Fidan B., Camlica A., Gueler S.  
INTERNATIONAL JOURNAL OF ADAPTIVE CONTROL AND SIGNAL PROCESSING, vol.29, no.2, pp.259-271, 2015 (SCI-Expanded)

## Articles Published in Other Journals

- I. **Distributed coverage control with mobile robots: A potential game approach**  
Guler S.  
Niğde Ömer Halisdemir Üniversitesi Mühendislik Bilimleri Dergisi, vol.12, no.4, pp.1271-1281, 2023 (Peer-Reviewed Journal)
- II. **Aerial Swarms: Recent Applications and Challenges**  
Abdelkader M., Güler S., Jaleel H., Shamma J. S.  
Current Robotics Reports, vol.2, no.1, pp.309-320, 2021 (Peer-Reviewed Journal)

## Books & Book Chapters

- I. **Deep Learning Based Formation Control of Drones**  
Kabore K. M., Güler S.  
in: Deep Learning for Unmanned Systems, Anis Kouba, Ahmad Taha Azar, Editor, Springer Nature, Zürich, pp.383-413, 2021
- II. **Adaptive Swarm Coordination and Formation Control**  
Güler S., Fidan B.  
in: Handbook of Research on Design, Control, and Modeling of Swarm Robotics, Ying Tan, Editor, IGI Global, Pennsylvania, pp.1-32, 2016

## Refereed Congress / Symposium Publications in Proceedings

- I. **Optimal Target Capture and Station Keeping Control of Mobile Agents without Global Position Information**  
Mostafa A. F., Fidan B., GÜLER S.  
2023 European Control Conference, ECC 2023, Bucharest, Romania, 13 - 16 June 2023
- II. **Collaborative target docking by two nonholonomic mobile robots**  
Güler S.  
10th International Conference on Advanced Technologies, Van, Turkey, 25 - 27 November 2022, pp.341-347
- III. **Mutual Relative Localization in Heterogeneous Air-ground Robot Teams**  
GÜLER S., Yildirim I. E., Alabay H. H.  
19th International Conference on Informatics in Control, Automation and Robotics (ICINCO), Lisbon, Portugal, 14 - 16 July 2022, pp.304-312
- IV. **Practical Formation Acquisition Mechanism for Nonholonomic Leader-follower Networks**  
Kabore K. M., GÜLER S.  
19th International Conference on Informatics in Control, Automation and Robotics (ICINCO), Lisbon, Portugal, 14 - 16 July 2022, pp.330-339
- V. **Peer-to-Peer Localization via On-board Sensing for Aerial Flocking**  
Rajab F. O., Güler S., Shamma J. S.  
2020 17th International Conference on Ubiquitous Robots (UR), Kyoto, Japan, 22 - 26 June 2020, vol.1, no.1, pp.1-6
- VI. **Infrastructure-free multi-robot localization with ultrawideband sensors**  
Güler S., Abdelkader M., Shamma J. S.  
2019 American Control Conference, ACC 2019, Pennsylvania, United States Of America, 10 - 12 July 2019, vol.2019-July, pp.13-18
- VII. **Real Time Onboard Ultrawideband Localization Scheme for an Autonomous Two-robot System**  
Güler S., Jiang J., Alghamdi A. A., Masoud R., Shamma J. S.  
2018 IEEE Conference on Control Technology and Applications (CCTA), Kobenhavn, Denmark, 21 - 24 August 2018, vol.1, no.1, pp.1-6
- VIII. **Cohesive motion control as a regulation problem**  
Güler S., Fidan B., Dasgupta S.  
2016 24th Mediterranean Conference on Control and Automation (MED), Athens, Greece, 21 - 24 June 2016, vol.1, no.1, pp.1-6
- IX. **Range Based Target Capture and Station Keeping of Nonholonomic Vehicles without GPS**  
Guler S., Fidan B.  
European Control Conference (ECC), Linz, Austria, 15 - 17 July 2015, pp.2970-2975
- X. **Adaptive control of a three-agent surveillance swarm with constant speed constraint**  
Guler S., Koksall N., Fidan B.  
2013 9th Asian Control Conference, ASCC 2013, İstanbul, Turkey, 23 - 26 June 2013
- XI. **Indirect adaptive formation control with nonlinear dynamics and parametric uncertainty**  
Guler S., Koksall N., Fidan B., GAZI V.  
2013 9th Asian Control Conference, ASCC 2013, İstanbul, Turkey, 23 - 26 June 2013
- XII. **Tracking and regulation control of a 2-DOF robot arm with unbalance**  
Güler S., Özgüler A. B.  
2012 17th International Conference on Methods and Models in Automation and Robotics, MMAR 2012, Miedzyzdroje, Poland, 27 - 30 August 2012, pp.280-285

## Supported Projects

Güler S., TUBITAK Project, Perception and decision mechanism designs for robot swarm realizations, 2019 - 2022

## **Patent**

Shamma J. S., Shaqura M. Z., Güler S., Algarni M., Gripper mechanism and method, Patent, CHAPTER A Human Needs, The Invention Registration Number: 10695915 , Standard Registration, 2020

## **Metrics**

Publication: 23

Citation (WoS): 58

Citation (Scopus): 151

H-Index (WoS): 4

H-Index (Scopus): 7