

Assoc. Prof. EMRE ÖZKAN

Personal Information

Office Phone: [+90 312 210 4502](tel:+903122104502)

Fax Phone: [+90 210 000 0](tel:+902100000)

Email: emreo@metu.edu.tr

Web: <https://avesis.metu.edu.tr/emreo>

International Researcher IDs

ScholarID: [pK-Sw6YAAAAJ&hl=pK-Sw6YAAAAJ&hl=svsv](https://orcid.org/0000-0002-0380-2928)

ORCID: 0000-0002-0380-2928

Publons / Web Of Science ResearcherID: B-4864-2019

ScopusID: 37013768900

Yoksis Researcher ID: 237438

Academic Titles / Tasks

Assistant Professor, Middle East Technical University, Faculty of Engineering, Department of Electrical and Electronics Engineering, 2016 - Continues

Assistant Professor, University of Cambridge, Engineering, Information Engineering , 2015 - 2015

Assistant Professor, Linköpings Universitet (Linköping University), 2011 - 2015

Assistant Professor, Linköpings Universitet (Linköping University), Mühendislik, Elektrik, 2011 - 2015

Lecturer PhD, Linköpings Universitet (Linköping University), Mühendislik, Elektrik, 2009 - 2011

Academic and Administrative Experience

Bölüm Başkan Danışmanı, Middle East Technical University, Faculty of Engineering, Department of Electrical and Electronics Engineering, 2016 - Continues

Courses

ENGINEERING DESIGN I, Undergraduate, 2020 - 2021, 2019 - 2020, 2018 - 2019, 2017 - 2018, 2016 - 2017

Seminar, Postgraduate, 2019 - 2020

PROBABILITY AND RANDOM VARIABLES, Undergraduate, 2015 - 2016

Advising Theses

ÖZKAN E., Variational bayes methods for random matrix-based extended target tracking, Postgraduate, B.TUNCER(Student), 2022

ÖZKAN E., New methods for decentralised sensor fusion and extended target tracking models, Postgraduate, H.KÖKSAL(Student), 2022

ÖZKAN E., New models and inference techniques for Gaussian process-based extended object tracking, Doctorate, M.KUMRU(Student), 2022

ÖZKAN E., Negative information fusion for gaussian process based three-dimensional extended target tracking, Postgraduate, C.GÜRKAN(Student), 2021

ÖZKAN E., Tracking non-ellipsoidal extended objects using sequential Monte- Carlo, Postgraduate, S.Fatih(Student), 2018
ÖZKAN E., Tracking non-ellipsoidal extended objects using sequential monte carlo, Postgraduate, S.FATİH(Student), 2018

Published journal articles indexed by SCI, SSCI, and AHCI

- I. **Multi-Ellipsoidal Extended Target Tracking With Variational Bayes Inference**
TUNCER B., ORGUNER U., ÖZKAN E.
IEEE TRANSACTIONS ON SIGNAL PROCESSING, vol.70, pp.3921-3934, 2022 (SCI-Expanded)
- II. **Three-Dimensional Extended Object Tracking and Shape Learning Using Gaussian Processes**
Kumru M., Özkan E.
IEEE TRANSACTIONS ON AEROSPACE AND ELECTRONIC SYSTEMS, vol.57, no.5, pp.2795-2814, 2021 (SCI-Expanded)
- III. **Random matrix based extended target tracking with orientation: A new model and inference**
Tuncer B., Özkan E.
IEEE Transactions on Signal Processing, vol.69, pp.1910-1923, 2021 (SCI-Expanded)
- IV. **Variational Measurement Update for Extended Object Tracking Using Gaussian Processes**
Kumru M., Koksall H., Özkan E.
IEEE SIGNAL PROCESSING LETTERS, vol.28, pp.538-542, 2021 (SCI-Expanded)
- V. **Multiellipsoidal extended target tracking with known extent using sequential Monte Carlo framework**
Kara S. F., ÖZKAN E.
TURKISH JOURNAL OF ELECTRICAL ENGINEERING AND COMPUTER SCIENCES, vol.27, no.2, pp.1546-1558, 2019 (SCI-Expanded)
- VI. **Approximate Bayesian Smoothing with Unknown Process and Measurement Noise Covariances**
Ardeschiri T., Ozkan E., ORGUNER U., Gustafsson F.
IEEE SIGNAL PROCESSING LETTERS, vol.22, no.12, pp.2450-2454, 2015 (SCI-Expanded)
- VII. **Extended Target Tracking Using Gaussian Processes**
Wahlström N., ÖZKAN E.
IEEE TRANSACTIONS ON SIGNAL PROCESSING, vol.63, no.16, pp.4165-4178, 2015 (SCI-Expanded)
- VIII. **Greedy Reduction Algorithms for Mixtures of Exponential Family**
Ardeschiri T., Granstrom K., Ozkan E., ORGUNER U.
IEEE SIGNAL PROCESSING LETTERS, vol.22, no.6, pp.676-680, 2015 (SCI-Expanded)
- IX. **Recursive Maximum Likelihood Identification of Jump Markov Nonlinear Systems**
ÖZKAN E., Lindsten F., Fritsche C., Gustafsson F.
IEEE TRANSACTIONS ON SIGNAL PROCESSING, vol.63, no.3, pp.754-765, 2015 (SCI-Expanded)
- X. **Tire Radii Estimation Using a Marginalized Particle Filter**
Lundquist C., Karlsson R., ÖZKAN E., Gustafsson F.
IEEE TRANSACTIONS ON INTELLIGENT TRANSPORTATION SYSTEMS, vol.15, no.2, pp.663-672, 2014 (SCI-Expanded)
- XI. **Marginalized adaptive particle filtering for nonlinear models with unknown time-varying noise parameters**
ÖZKAN E., Smidl V., Saha S., Lundquist C., Gustafsson F.
AUTOMATICA, vol.49, no.6, pp.1566-1575, 2013 (SCI-Expanded)
- XII. **Dynamic Speech Spectrum Representation and Tracking Variable Number of Vocal Tract Resonance Frequencies With Time-Varying Dirichlet Process Mixture Models**
ÖZKAN E., ÖZBEK ARSLAN I., Demirekler M.
IEEE TRANSACTIONS ON AUDIO SPEECH AND LANGUAGE PROCESSING, vol.17, no.8, pp.1518-1532, 2009 (SCI-Expanded)

Articles Published in Other Journals

I. Beklenti Maksimizasyonu ile Genişletilmiş Hedef İzleme

ÖZKAN E.

ÇUKUROVA ÜNİVERSİTESİ MÜHENDİSLİK MİMARLIK FAKÜLTESİ DERGİSİ, vol.34, pp.145-154, 2019 (Peer-Reviewed Journal)

Refereed Congress / Symposium Publications in Proceedings

I. Association and Fusion of Range-Azimuth Tracks

Balci A. E., ŞAHİN K. K., Kumru F., Pektas F., ÖZKAN E., ORGUNER U.

25th International Conference of Information Fusion (FUSION), Linköping, Sweden, 4 - 07 July 2022

II. Extended Target Tracking and Classification Using Neural Networks

TUNCER B., KUMRU M., ÖZKAN E.

22nd International Conference on Information Fusion (FUSION), Ottawa, Canada, 2 - 05 July 2019

III. Multi-Ellipsoidal Extended Target Tracking Using Sequential Monte Carlo

Kara S. F., Özkan E.

2018 21st International Conference on Information Fusion (FUSION), London, United Kingdom, 10 - 13 July 2018

IV. 3D Extended Object Tracking Using Recursive Gaussian Processes

Kumru M., Özkan E.

2018 21st International Conference on Information Fusion (FUSION), Cambridge, Canada, 10 - 13 July 2018

V. MARGINAL BAYESIAN BHATTACHARYYA BOUNDS FOR DISCRETE-TIME FILTERING

Fritsche C., ORGUNER U., ÖZKAN E., Gustafsson F.

IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP), Calgary, Canada, 15 - 20 April 2018, pp.4289-4293

VI. Extended Object Tracking and Shape Classification

Tuncer B., Kumru M., Alatan A. A., Özkan E.

21st International Conference on Information Fusion (FUSION), Cambridge, Canada, 10 - 13 July 2018, pp.267-274

VII. Sparse Structure Inference for Group and Network Tracking

Murphy J., ÖZKAN E., Bunch P., Godsill S. J.

19th International Conference on Information Fusion (FUSION), Heidelberg, Germany, 5 - 08 July 2016, pp.1208-1214

VIII. Rao-Blackwellised Particle Filter for Star-Convex Extended Target Tracking Models

ÖZKAN E., Wahlstrom N., Godsill S. J.

19th International Conference on Information Fusion (FUSION), Heidelberg, Germany, 5 - 08 July 2016, pp.1193-1199

IX. Joint Antenna and Propagation Model Parameter Estimation Using RSS Measurements

Kasebzadeh P., Fritsche C., ÖZKAN E., Gunnarsson F., Gustafsson F.

2015 18th International Conference on Information Fusion, Washington, Kiribati, 6 - 09 July 2015

X. Particle Filtering for Positioning Based on Proximity Reports

Zhao Y., Yin F., Gunnarsson F., Amirijoo M., ÖZKAN E., Gustafsson F.

2015 18th International Conference on Information Fusion, Washington, Kiribati, 6 - 09 July 2015

XI. Cooperative Terrain Based Navigation and coverage identification using consensus

Kasebzadeh P., Fritsche C., ÖZKAN E., Gunnarsson F., Gustafsson F.

2015 18th International Conference on Information Fusion, Washington, Kiribati, 6 - 09 July 2015

XII. MARGINAL WEISS-WEINSTEIN BOUNDS FOR DISCRETE-TIME FILTERING

Fritsche C., Ozkan E., ORGUNER U., Gustafsson F.

40th IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP), Brisbane, Australia, 19 - 24 April 2015, pp.3487-3491

XIII. A fresh look at Bayesian Cramer Rao bounds for discrete time nonlinear filtering

- Zhao Y., Yin F., Gunnarsson F., Amirijoo M., ÖZKAN E., Gustafsson F.
2014 17th International Conference on Information Fusion, Salamanca, Mexico, 7 - 10 July 2014
- XIV. **On the Cramér-Rao lower bound under model mismatch**
Fritsche C., ORGUNER U., Ozkan E., Gustafsson F.
40th IEEE International Conference on Acoustics, Speech, and Signal Processing, ICASSP 2015, Brisbane, Australia, 19 - 24 April 2014, pp.3986-3990
- XV. **An adaptive PHD filter for tracking with unknown sensor characteristics**
Zhao Y., Yin F., Gunnarsson F., Amirijoo M., ÖZKAN E., Gustafsson F.
2013 16th International Conference on Information Fusion, İstanbul, Turkey, 9 - 12 July 2013
- XVI. **A Student's t filter for heavy tailed process and measurement noise**
Roth M., ÖZKAN E., Gustafsson F.
2013 IEEE International Conference on Acoustics, Speech and Signal Processing, Vancouver, BC, Canada, 26 - 31 May 2013
- XVII. **Online EM algorithm for joint state and mixture measurement noise estimation**
Zhao Y., Yin F., Gunnarsson F., Amirijoo M., ÖZKAN E., Gustafsson F.
2012 15th International Conference on Information Fusion, Singapore, Singapore, 9 - 12 July 2012
- XVIII. **Online EM algorithm for jump Markov systems**
Zhao Y., Yin F., Gunnarsson F., Amirijoo M., ÖZKAN E., Gustafsson F.
2012 15th International Conference on Information Fusion, Singapore, Singapore, 9 - 12 July 2012
- XIX. **Olasılık hipotez doğruluğu süzgeci kullanarak akustik sensörlerle kara araçları takibi**
Özkan E., Göldoğan B., ORGUNER U., Gustafsson F.
2012 20th Signal Processing and Communications Applications Conference, SIU 2012, Fethiye, Muğla, Turkey, 18 - 20 April 2012
- XX. **A Bayesian approach to jointly estimate tire radii and vehicle trajectory**
ÖZKAN E., Lundquist C., Gustafsson F.
2011 14th International IEEE Conference on Intelligent Transportation Systems (ITSC), Washington, DC, USA, 5 - 07 October 2011
- XXI. **Ground multiple target tracking with a network of acoustic sensor arrays using PHD and CPHD filters**
Özkan E., Guldogan M. B., Orguner U., Gustafsson F.
14th International Conference on Information Fusion, Fusion 2011, Chicago, IL, United States Of America, 5 - 08 July 2011
- XXII. **Non parametric bayesian measurement noise density estimation in non linear filtering**
ÖZKAN E., Saikat S., Fredrik G., Smidl V.
2011 IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP), Prague, Czech Republic, 22 - 27 May 2011
- XXIII. **Parçacık Süzgeci ile Doğrusal olmayan Modellerde Gauss Gürültüsü Parametreleri Kestirimi**
ÖZKAN E., GUSTAFSSON F.
2011 - IEEE 19. Sinyal İşleme ve İletişim Uygulamaları Kurultayı, Antalya, Turkey, Turkey, 20 - 22 April 2011
- XXIV. **Marginalized particle filters for Bayesian estimation of Gaussian noise parameters**
Zhao Y., Yin F., Gunnarsson F., Amirijoo M., ÖZKAN E., Gustafsson F.
2010 13th International Conference on Information Fusion, Edinburgh, Saint Helena, 26 - 29 July 2010

Supported Projects

Özkan E., Technopark, Uzun Menzilli Radar Sistemleri İçin Veri Füzyonu Tekniklerinin Geliştirilmesi, 2020 - 2022

Özkan E., Technopark, ÇOKLU HEDEF ÇOKLU SENSÖR FÜZYON ALGORİTMASI GELİŞTİRME PROJESİ, 2019 - 2020

Özkan E., Technopark, Nitelik Füzyonu Tespit Sistemi Algoritması geliştirme Projesi - 2, 2017 - 2018

Özkan E., Project Supported by Other Private Institutions, SENSOR FUZYON ALGORİTMASI GELİŞTİRME PROJESİ, 2016 - 2017

Metrics

Publication: 37

Citation (WoS): 488

Citation (Scopus): 572

H-Index (WoS): 9

H-Index (Scopus): 12