

## Assoc. Prof. FURKAN NUR DENİZ

### Personal Information

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### International Researcher IDs

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Publons / Web Of Science ResearcherID: ABB-9604-2020

Yoksis Researcher ID: 120386

### Education Information

Doctorate, Inonu University, Fen Bilimler Enst, Elektrik-Elektronik Mühendisliği, Turkey 2011 - 2017

Postgraduate, Inonu University, Fen Bilimleri Enst., Elektrik-Elektronik Müh., Turkey 2008 - 2011

Undergraduate, Inonu University, Mühendislik Fakültesi, Elektrik-Elektronik Mühendisliği, Turkey 2004 - 2008

### Foreign Languages

English, B2 Upper Intermediate

### Dissertations

Doctorate, Kesir dereceli sistemlerde modelleme ve kontrol uygulamaları, Inonu University, Fen Bilimleri Enstitüsü, Elektrik-Elektronik Mühendisliği (Dr), 2017

Postgraduate, Bilgisayarlı tomografi ile elde edilen volumetrik verinin işlenerek üç boyutlu görüntüye dönüştürülmesi, Inonu University, Mühendislik Fakültesi, Elektrik-Elektronik Mühendisliği Bölümü, 2011

### Research Areas

Electrical and Electronics Engineering, Engineering and Technology

### Academic Titles / Tasks

Assistant Professor, Inonu University, Mühendislik Fakültesi, Elektrik-Elektronik Mühendisliği, 2017 - Continues

Research Assistant, Inonu University, Fen Bilimleri Enstitüsü, Elektrik-Elektronik Mühendisliği (Dr), 2009 - 2017

### Advising Theses

Deniz F. N., Kesir dereceli çok giriş çok çıkışlı sistemlerde ayrıştırma yöntemleri ve kontrolör tasarımı, Postgraduate, M.GÜNAY(Student), 2021

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

- I. **An effective Smith predictor based fractional-order PID controller design methodology for preservation of design optimality and robust control performance in practice**  
DENİZ F. N.  
INTERNATIONAL JOURNAL OF SYSTEMS SCIENCE, vol.53, no.14, pp.2948-2966, 2022 (SCI-Expanded)
- II. **An effective analog circuit design of approximate fractional-order derivative models of M-SBL fitting method**  
KÖSEOĞLU M., DENİZ F. N., ALAGÖZ B. B., ALİSOY H.  
ENGINEERING SCIENCE AND TECHNOLOGY-AN INTERNATIONAL JOURNAL-JESTECH, vol.33, 2022 (SCI-Expanded)
- III. **Behavioural modelling of delayed imbalance dynamics in nature: a parametric modelling for simulation of delayed instability dynamics**  
ALAGÖZ B. B., DENİZ F. N., KÖSEOĞLU M.  
INTERNATIONAL JOURNAL OF GENERAL SYSTEMS, vol.51, no.4, pp.313-333, 2022 (SCI-Expanded)
- IV. **An efficient PID-based optimizer loop and its application in De Jong's functions minimization and quadratic regression problems**  
ALAGÖZ B. B., DENİZ F. N., KÖSEOĞLU M.  
SYSTEMS & CONTROL LETTERS, vol.159, 2022 (SCI-Expanded)
- V. **Revisiting four approximation methods for fractional order transfer function implementations: Stability preservation, time and frequency response matching analyses**  
DENİZ F. N., ALAGÖZ B. B., TAN N., KÖSEOĞLU M.  
ANNUAL REVIEWS IN CONTROL, vol.49, pp.239-257, 2020 (SCI-Expanded)
- VI. **An integer order approximation method based on stability boundary locus for fractional order derivative/integrator operators**  
DENİZ F. N., ALAGÖZ B. B., TAN N., Atherton D. P.  
ISA TRANSACTIONS, vol.62, pp.154-163, 2016 (SCI-Expanded)
- VII. **Implicit disturbance rejection performance analysis of closed loop control systems according to communication channel limitations**  
ALAGÖZ B. B., TAN N., DENİZ F. N., KELEŞ C.  
IET CONTROL THEORY AND APPLICATIONS, vol.9, no.17, pp.2522-2531, 2015 (SCI-Expanded)
- VIII. **Stability region analysis in Smith predictor configurations using a PI controller**  
DENİZ F. N., TAN N., HAMAMCI S. E., Kaya I.  
TRANSACTIONS OF THE INSTITUTE OF MEASUREMENT AND CONTROL, vol.37, no.5, pp.606-614, 2015 (SCI-Expanded)
- IX. **Disturbance rejection performance analyses of closed loop control systems by reference to disturbance ratio**  
Alagoz B. B., DENİZ F. N., KELEŞ C., TAN N.  
ISA TRANSACTIONS, vol.55, pp.63-71, 2015 (SCI-Expanded)
- X. **Spatio-spectral analyses of electromagnetic wave energy absorption and heating effect**  
ALİSOY H. Z., ALAGÖZ B. B., US S. B., DENİZ F. N., ALAGÖZ S.  
OPTİK, vol.125, no.15, pp.4124-4130, 2014 (SCI-Expanded)

## Articles Published in Other Journals

- I. **Hybrid Approximation Method For Time Response Improvement Of CFE Based Approximate Fractional Order Derivative Models By Using Gradient Descent Algorithm**  
Köseoğlu M., Deniz F. N., Alagöz B. B.  
Uludağ Üniversitesi Mühendislik Fakültesi Dergisi, vol.28, no.2, pp.403-416, 2023 (Peer-Reviewed Journal)
- II. **An application for the PID-based optimizer loop: Estimation of the annual production regression models of Malatya's apricot**

DENİZ F. N.

Dicle Üniversitesi Mühendislik Fakültesi Mühendislik Dergisi, vol.13, no.3, pp.511-516, 2022 (Peer-Reviewed Journal)

- III. **Coefficient Diagram Method Based Decentralized Controller for Fractional Order TITO Systems**  
GÜNAY BULUT M., DENİZ F. N.  
Balkan Journal of Electrical and Computer Engineering, vol.10, no.2, pp.198-208, 2022 (Peer-Reviewed Journal)
- IV. **An experimental analog circuit realization of Matsuda's approximate fractional-order integral operators for industrial electronics**  
KÖSEOĞLU M., DENİZ F. N., ALAGÖZ B. B., YUCE A., TAN N.  
ENGINEERING RESEARCH EXPRESS, vol.3, no.4, 2021 (ESCI)
- V. **Tuning of PI-PD Controller Based on Standard Forms for Fractional Order Systems**  
DENİZ F. N., YÜCE A., TAN N.  
Journal of Applied Nonlinear Dynamics, vol.8, no.1, pp.5-23, 2019 (Scopus)
- VI. **An interactive design strategy for fractional order PI controllers in LabVIEW**  
Yüce A., Deniz F. N., Tan N., Atherton D. P.  
International Journal of Modelling, Identification and Control (IJMIC), vol.29, no.4, pp.304-314, 2018 (ESCI)
- VII. **Exact time response computation of control systems with fractional order lag and lead compensators**  
TAN N., ATHERTON D. P., YÜCE A., DENİZ F. N.  
INTERNATIONAL JOURNAL OF CIRCUITS, SYSTEMS AND SIGNAL PROCESSING, vol.10, pp.260-268, 2016 (Scopus)
- VIII. **Kapalı Çevrim PID Kontrolör Tasarımında Birim Basamak Cevabı Çoklu Ölçüt Performans Haritalaması**  
DENİZ F. N., KELEŞ C., ALAGÖZ B. B., TAN N.  
Sakarya Üniversitesi Fen Bilimleri Enstitüsü, vol.18, no.3, pp.157-165, 2014 (Peer-Reviewed Journal)

## Refereed Congress / Symposium Publications in Proceedings

- I. **Fractional Order PI Controller Design Based on Bode's Ideal Loop and Matsuda's Approximation Method for A Plant With An Integrator**  
DENİZ F. N.  
10th International Conference on Advanced Technologies (ICAT'22), Van, Turkey, 25 - 27 November 2022
- II. **An Approach to Preserve Optimality in Implementation of Fractional Order PID Controllers Considering Approximation Methods**  
DENİZ F. N.  
2022 International Symposium on Multidisciplinary Studies and Innovative Technologies (ISMSIT), Ankara, Turkey, 20 - 22 October 2022
- III. **Position Control of DC Motor Using Fractional Fuzzy Inference System (FFIS)**  
Cengiz M., DENİZ F. N.  
14th International Conference On Engineering & Natural Sciences, Sivas, Turkey, 18 - 19 July 2022
- IV. **Computation of Stabilizing Decentralized PI Controllers for Fractional Order TITO (FOTITO) Systems**  
Bulut M. G., DENİZ F. N.  
IEEE 11th Annual Computing and Communication Workshop and Conference (CCWC), ELECTR NETWORK, 27 - 30 January 2021, pp.1274-1280
- V. **Computation of Stabilizing Decentralized PI Controllers for TITO Systems with Simplified and Inverted Decoupling**  
GÜNAY BULUT M., DENİZ F. N.  
2020 7th International Conference on Electrical and Electronics Engineering (ICEEE), Antalya, Turkey, 14 - 16 April 2020
- VI. **A New Integer Order Approximation Table for Fractional Order Derivative Operators**  
Yuce A., DENİZ F. N., TAN N.

20th World Congress of the International-Federation-of-Automatic-Control (IFAC), Toulouse, France, 9 - 14 July 2017, vol.50, pp.9736-9741

VII. **Tuning of Fractional Order PID Controllers Based on Integral Performance Criteria Using Fourier Series Method**

DENİZ F. N., Yuce A., TAN N., Atherton D. P.

20th World Congress of the International-Federation-of-Automatic-Control (IFAC), Toulouse, France, 9 - 14 July 2017, vol.50, pp.8561-8566

VIII. **Kesir dereceli transfer fonksiyonları için tamsayı dereceli yaklaşım yöntemlerinin LabVIEW ortamında interaktif analizi Interactive Analysis of Integer Order Approximation Methods in LabVIEW Environment**

YÜCE A., DENİZ F. N., TAN N.

1st International Mediterranean Science and Engineering Congress, Adana, Turkey, 26 - 28 October 2016

IX. **PI Controller Design for Fractional Order Systems with LabVIEW**

YÜCE A., DENİZ F. N., TAN N.

ICFDA'16, Novi-Sad, Serbia And Montenegro, 18 July - 20 June 2016, pp.292-301

X. **PI PD controller Design for Fractional Order Plant Using Standard Forms International Conference on Fractional Differentiation and Its Applications**

DENİZ F. N., YÜCE A., TAN N.

ICFDA'16, Novi-Sad, Serbia And Montenegro, 18 July - 20 June 2016, pp.452-461

XI. **Teaching Fractional Order Control Systems Using Interactive Tools**

TAN N., YÜCE A., DENİZ F. N.

International Conference on Education in Mathematics, Science & Technology, MUĞLA-BODRUM, Turkey, 19 - 22 May 2016, pp.616-626

XII. **A Model Identification Method for Tuning of PID Controller in a Smith Predictor Structure**

DENİZ F. N., TAN N.

13th IFAC Workshop on Time Delay Systems (TDS), İstanbul, Turkey, 22 - 24 June 2016, vol.49, pp.13-18

XIII. **SBL Eşleştirme Yöntemi ile Kesir Dereceli PID Kontrolörün Yaklaşık Modellenmesi ve Ters Sarkaç Kontrol Sisteminde Uygulaması**

DENİZ F. N., YÜCE A., ALAGÖZ B. B., TAN N.

Otomatik Kontrol Ulusal Toplantısı, TOK'15, Denizli, Turkey, 9 - 12 September 2015

XIV. **SBL Eşleştirme Yöntemi ile Kesir Dereceli Sistem Modellemesinin Avantajları**

DENİZ F. N., ALAGÖZ B. B., TAN N.

Otomatik Kontrol Ulusal Toplantısı, TOK'15, Denizli, Turkey, 9 - 12 September 2015

XV. **Time Response Computation of Control systems with Fractional Order Lag or Lead Controller**

TAN N., Yuce A., Atherton D. P., DENİZ F. N.

Second International Conference on Mathematics and Computers in Sciences and in Industry MCSI, Sliema, Malta, 17 - 19 August 2015, pp.113-118

XVI. **PID Controller Design Based on Second Order Model Approximation by Using Stability Boundary Locus Fitting**

DENİZ F. N., ALAGÖZ B. B., TAN N.

9th International Conference on Electrical and Electronics Engineering (ELECO), Bursa, Turkey, 26 - 28 November 2015, pp.827-831

XVII. **Estimating the Time Response of Control Systems with Fractional Order PI from Frequency Response**

TAN N., Yuce A., Atherton D. P., DENİZ F. N.

2015 4th International Conference on Electrical Engineering (ICEE), Boumerdes, Algeria, 13 - 15 December 2015, pp.152-157

XVIII. **Obtaining the Time Response of Control Systems with Fractional Order PID from Frequency Responses**

Yuce A., DENİZ F. N., TAN N., Atherton D. P.

9th International Conference on Electrical and Electronics Engineering (ELECO), Bursa, Turkey, 26 - 28 November

2015, pp.832-836

- XIX. **Kesirli Dereceli Kontrol Sistemlerinde Tamsayı Dereceli Yaklaşım Metotlarının İncelenmesi**  
TAN N., YÜCE A., ÖZEL A., DENİZ F. N.  
Otomatik Kontrol Ulusal Toplantısı, TOK'14, Kocaeli, Turkey, 11 - 13 September 2014
- XX. **Yüksek dereceli sistemlerin kararlılık sınır eğrileri ile ikinci derece yaklaşık modele indirgenmesi ve uygun PID kontrolör tasarımı**  
ALAGÖZ B. B., DENİZ F. N., TAN N.  
Otomatik Kontrol Ulusal Toplantısı, TOK'14, Kocaeli, Turkey, 11 - 13 September 2014
- XXI. **PID kullanılan Smith öngörücüsü yapısının kararlılık analizi**  
DENİZ F. N., TAN N., ALAGÖZ B. B.  
Otomatik Kontrol Ulusal Toplantısı, TOK'14, Kocaeli, Turkey, 11 - 13 September 2014
- XXII. **Design of Fractional-Order PI Controllers for Disturbance Rejection Using RDR Measure**  
DENİZ F. N., ALAGÖZ B. B., KELEŞ C., TAN N.  
International Conference on Fractional Differentiation and its Applications (ICFDA), Catania, Italy, 23 - 25 June 2014
- XXIII. **Smith Öngörücüsü Yapıları İçin Kararlılık Bölgesi Analizi**  
Deniz F. N., Tan N., Hamamcı S. E., Kaya İ.  
TOK 2013 Otomatik Kontrol Ulusal Toplantısı, Malatya, Turkey, 26 September 2013
- XXIV. **Görüntü İşleme ile PID Kararlılık Bölgesi Kontrolör Performansı Haritalaması**  
DENİZ F. N., KELEŞ C., ALAGÖZ B. B., TAN N.  
Otomatik Kontrol Ulusal Toplantısı, TOK2013, Malatya, Turkey, 26 - 28 September 2013, pp.874-878
- XXV. **Darbe Generatörünün Maksimum Enerjisi Hakkında Varyasyonel Problem**  
alisoy h., alisoy g., KELEŞ C., DENİZ F. N., IŞIK İ., içel y.  
Otomatik Kontrol Ulusal Toplantısı, Malatya, Turkey, 25 - 27 September 2013, pp.1-5
- XXVI. **Medikal Görüntüler İçin Alternatif Bir Bölütleme Yaklaşımı**  
DENİZ F. N., ALAGÖZ B. B., TAĞLUK M. E.  
SIU2010 IEEE 18.Sinyal İşleme ve İletişim Uygulamaları Kurultayı, Diyarbakır, Turkey, 22 - 24 April 2010

## Supported Projects

Tan N., TUBITAK Project, Kesirli Dereceli Kontrol Sistemlerinin Analiz Ve Tasarımı İçin Yeni Metotların Geliştirilmesi Ve Uygulamaları, 2015 - 2018

## Metrics

Publication: 44

Citation (WoS): 153

Citation (Scopus): 90

H-Index (WoS): 8

H-Index (Scopus): 6