

## Prof. ZAFER BİNGÜL

### Personal Information

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### International Researcher IDs

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### Education Information

Postgraduate, Istanbul Technical University, Elektrik-Elektronik Fakültesi, Kontrol Ve Otomasyon Mühendisliği Bölümü, Turkey 1992 - Continues

Doctorate, Vanderbilt University, Bilgisayar Ve Elektrik Mühendisliği, United States Of America 1996 - 2000

Postgraduate, Vanderbilt University, Bilgisayar Ve Elektrik Mühendisliği , United States Of America 1994 - 1996

Undergraduate, Istanbul Technical University, Elektrik-Elektronik Fakültesi, Turkey 1988 - 1992

### Foreign Languages

English, C1 Advanced

### Dissertations

Doctorate, Dynamic Modeling of Gas Metal Arc Welding Process, Vanderbilt University, Bilgisayar Ve Elektrik Mühendisliği, 2000

Postgraduate, Stability Considerations for the Gas Metal Arc Welding Process, Vanderbilt University, Bilgisayar Ve Elektrik Mühendisliği , 1996

### Research Areas

Control and System Engineering, Robotics and Mechatronics Systems, Artificial Intelligence, Computer Learning and Pattern Recognition, Electrical and Electronics Engineering, Power Electronics, Optimization Theory and Methods, Simulation, Machine Theory and Dynamics, Engineering and Technology

### Academic Titles / Tasks

Professor, Kocaeli University, Mühendislik Fakültesi, Mekatronik Mühendisliği, 2012 - Continues

Associate Professor, Kocaeli University, Mühendislik Fakültesi, Mekatronik Mühendisliği, 2006 - 2012

Assistant Professor, Kocaeli University, Mühendislik Fakültesi, Mekatronik Mühendisliği, 2001 - 2006

Assistant Professor, Kocaeli University, Teknoloji Fakültesi, Elektrik Eğitimi, 2000 - 2001

Research Assistant, Vanderbilt University, Mühendislik Fakültesi, Elektrik Ve Bilgisayar Mühendisliği, 1994 - 2000

Research Assistant, Kocaeli University, Teknoloji Fakültesi, Elektrik Eğitimi, 1993 - 2000

## Academic and Administrative Experience

Head of Department, Kocaeli University, Mühendislik Fakültesi, Mekatronik Mühendisliği, 2012 - 2015

Kocaeli Üniversitesi, Mühendislik Fakültesi, Mekatronik Mühendisliği Bölümü, 2012 - 2015

Assistant Director of the Institute, Kocaeli University, Fen Bilimleri Enstitüsü, Mekatronik Müh., 2009 - 2012

Deputy Head of Department, Kocaeli University, Mühendislik Fakültesi, Mekatronik Mühendisliği, 2003 - 2006

Head of Department, Kocaeli University, Teknoloji Fakültesi, Elektrik Eğitimi, 2000 - 2001

## Advising Theses

Bingül Z., Yeni Bir Dönel Seri Elastik Eyleyici Geliştirilmesi ve Doğrusal Olmayan Kontrolü, Doctorate, M.Javad(Student), 2021

Bingül Z., ALTI SERBESTLİK DERECELİ BİR SERİ ROBOTUN TASARIMI, ÜRETİMİ VE UZAKTAN İNSAN ELİ HAREKETLERİ İLE KONTROLÜ, Postgraduate, Z.YILMAZ(Student), 2021

Bingül Z., ANTI SWING UP CONTROL OF A SINGLE, DOUBLE AND TRIPLE LINK ROTARY INVERTED PENDULUM WITH NONLINEAR FRICTION MODELS, Doctorate, Z.BEN(Student), 2021

Bingül Z., Çok Gövdeli ve Yüksek Serbestlik Dereceli Robotik Sistemlerin Kinematik ve Dinamik Modellenmesi için Araç Kutusu Geliştirilmesi, Doctorate, H.ÖZAKYOL(Student), 2020

Bingül Z., SECİCİ LAZER ERGİTME YÖNTEMİNİN ÇOKLU FİZİK MODELLEMESİ, Postgraduate, B.KÖSE(Student), 2020

Bingül Z., DESIGN AND ANALYSIS OF 60KW RADIAL FLUX ELECTRICALLY EXCITED EDDY CURRENT BRAKE FOR ELECTRICAL TRUCK, Postgraduate, M.BARIŞ(Student), 2020

Bingül Z., 6 SERBESTLİK DERECELİ OTO VE KAMYON LASTİĞİ PİŞİRME KALIPLARI İÇİN TEMİZLEME ROBOTU TASARIMI VE GERÇEK ZAMANLI POZİSYON KONTROLÜ, Postgraduate, L.ORBAY(Student), 2019

Bingül Z., EXTENDED KALMAN FILTER ESTIMATION BASED CONTROL OF DOUBLE TWIN ROTOR AERODYNAMIC SYSTEM, Postgraduate, F.NASIR(Student), 2019

Bingül Z., STIRLING SOĞUTUCULU VE İKİ SERBESTLİK DERECELİ BİR KARDAN MEKANİZMASININ GÜRBÜZ KONTROLÜ, Postgraduate, H.DOĞAN(Student), 2019

Bingül Z., PID and fuzzy control of magnetic levitation system, Postgraduate, E.WVEIMAR(Student), 2019

Bingül Z., KEVLAR MALZEMESİNİN SÜRTÜNME KARIŞTIRMA KAYNAĞI YÖNTEMİ İLE ÇOKLUFİZİK MODELLENMESİ, Postgraduate, A.TAŞAN(Student), 2019

Bingül Z., Robotik sac katlama kuvvet değerlerinin yapay sinir ağları yöntemi ile tahmini, Postgraduate, R.KAVALLI(Student), 2016

Bingül Z., İki serbestlik dereceli helikopter sisteminin modellenmesi ve kontrolü, Postgraduate, Z.ÖCAL(Student), 2014

Bingül Z., Seri ve paralel robotlarda parçacık sürü optimizasyonu ile yörünge kontrolörü tasarımı, Doctorate, O.KARAHAN(Student), 2012

Bingül Z., Medikal amaçlı haptik güdümlü empedans kuvvet kontrollü Stewart platformunun geliştirilmesi ve kontrolü, Doctorate, S.KIZIR(Student), 2012

Bingül Z., Esnek eklemli ve esnek bağlı robot kolu kontrolü, Postgraduate, İ.HAKKI(Student), 2011

Bingül Z., Üç boyutlu görüntüleme amaçlı mobil robot tasarımı, Postgraduate, A.KIZILHAN(Student), 2010

Bingül Z., S60 robotunun dinamik modelinin çıkarılması, Postgraduate, O.KARAHAN(Student), 2007

Bingül Z., Tek eksenli manyetik süspansiyon sistemi, Postgraduate, S.ÖZTÜRK(Student), 2007

Bingül Z., Endüstriyel robotların modellenmesi ve çevrimdışı programlanması, Doctorate, S.KÜÇÜK(Student), 2004

Bingül Z., Genetik algoritma ve benzetilmiş tavlama ile iki boyutlu giyotinsiz kesme problemlerine olasılıksal yaklaşım, Postgraduate, A.SÖKE(Student), 2003

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

- I. **Point-to-point virtual model control of a flexible joint robotic manipulator using trajectories of motion**  
Kizir S., Bingul Z., Agee J. T.  
TRANSACTIONS OF THE INSTITUTE OF MEASUREMENT AND CONTROL, 2024 (SCI-Expanded)
- II. **A comparative study of anti-swing radial basis neural-fuzzy LQR controller for multi-degree-of-freedom rotary pendulum systems**  
Ben Hazem Z., BİNGÜL Z.  
Neural Computing and Applications, vol.35, no.23, pp.17397-17413, 2023 (SCI-Expanded)
- III. **Intelligent-PID with PD Feedforward Trajectory Tracking Control of an Autonomous Underwater Vehicle**  
BİNGÜL Z., Gul K.  
Machines, vol.11, no.2, 2023 (SCI-Expanded)
- IV. **Comprehensive Review of Different Pendulum Structures in Engineering Applications**  
Ben Hazem Z., BİNGÜL Z.  
IEEE ACCESS, vol.11, pp.42862-42880, 2023 (SCI-Expanded)
- V. **A Study of Anti-swing Fuzzy LQR Control of a Double Serial Link Rotary Pendulum**  
Hazem Z. B., Fotuhi M. J., BİNGÜL Z.  
IETE JOURNAL OF RESEARCH, vol.69, no.6, pp.3443-3454, 2023 (SCI-Expanded)
- VI. **Real-time trajectory tracking control of Stewart platform using fractional order fuzzy PID controller optimized by particle swarm algorithm**  
Bingül Z., Karahan O.  
INDUSTRIAL ROBOT-THE INTERNATIONAL JOURNAL OF ROBOTICS RESEARCH AND APPLICATION, vol.49, no.4, pp.708-725, 2022 (SCI-Expanded)
- VII. **Anti-swing radial basis neuro-fuzzy linear quadratic regulator control of double link rotary pendulum**  
Ben Hazem Z., Fotuhi M. J., Bingül Z.  
PROCEEDINGS OF THE INSTITUTION OF MECHANICAL ENGINEERS PART I-JOURNAL OF SYSTEMS AND CONTROL ENGINEERING, vol.236, no.3, pp.531-545, 2022 (SCI-Expanded)
- VIII. **Fuzzy torque trajectory control of a rotary series elastic actuator with nonlinear friction compensation**  
Fotuhi M. J., Bingül Z.  
ISA Transactions, vol.115, pp.206-217, 2021 (SCI-Expanded)
- IX. **Novel fractional hybrid impedance control of series elastic muscle-tendon actuator**  
Fotuhi M. J., Bingül Z.  
INDUSTRIAL ROBOT-THE INTERNATIONAL JOURNAL OF ROBOTICS RESEARCH AND APPLICATION, vol.48, no.4, pp.532-543, 2021 (SCI-Expanded)
- X. **Development of a Fuzzy-LQR and Fuzzy-LQG stability control for a double link rotary inverted pendulum**  
Hazem Z. B., Fotuhi M. J., Bingül Z.  
JOURNAL OF THE FRANKLIN INSTITUTE-ENGINEERING AND APPLIED MATHEMATICS, vol.357, pp.10529-10556, 2020 (SCI-Expanded)
- XI. **A Comparative Study of the Joint Neuro-Fuzzy Friction Models for a Triple Link Rotary Inverted Pendulum**  
Ben Hazem Z., Fotuhi M. J., Bingül Z.  
IEEE ACCESS, vol.8, pp.49066-49078, 2020 (SCI-Expanded)
- XII. **Advanced robotics analysis toolbox for kinematic and dynamic design and analysis of high-DOF redundant serial manipulators**  
Özakyol H., Karaman C., Bingül Z.  
COMPUTER APPLICATIONS IN ENGINEERING EDUCATION, vol.27, no.6, pp.1429-1452, 2019 (SCI-Expanded)

- XIII. **Design and development of a Stewart platform assisted and navigated transsphenoidal surgery**  
Kizir S., Bingül Z.  
TURKISH JOURNAL OF ELECTRICAL ENGINEERING AND COMPUTER SCIENCES, vol.27, pp.961-972, 2019 (SCI-Expanded)
- XIV. **A novel performance criterion approach to optimum design of PID controller using cuckoo search algorithm for AVR system**  
Bingül Z., Karahan O.  
Journal of the Franklin Institute, vol.355, pp.5534-5559, 2018 (SCI-Expanded)
- XV. **Comparison of PID and FOPID controllers tuned by PSO and ABC algorithms for unstable and integrating systems with time delay**  
Bingül Z., Karahan O.  
Optimal Control Applications and Methods, vol.39, pp.1431-1450, 2018 (SCI-Expanded)
- XVI. **Swarm intelligence for controller tuning and control of fractional systems**  
Bingül Z., Karahan O.  
SWARM INTELLIGENCE, VOL 3: APPLICATIONS, vol.119, pp.245-281, 2018 (SCI-Expanded)
- XVII. **Trajectory and Vibration Control of a Single-Link Flexible-Joint Manipulator Using a Distributed Higher-Order Differential Feedback Controller**  
Agee J. T., Bingül Z., Kizir S.  
JOURNAL OF DYNAMIC SYSTEMS MEASUREMENT AND CONTROL-TRANSACTIONS OF THE ASME, vol.139, 2017 (SCI-Expanded)
- XVIII. **Recent Advances in Control Theory and Applications in Turkey**  
BİNGÜL Z.  
TRANSACTIONS OF THE INSTITUTE OF MEASUREMENT AND CONTROL, vol.38, no.5, pp.499-500, 2016 (SCI-Expanded)
- XIX. **Intelligent proportional-integral (iPI) control of a single link flexible joint manipulator**  
Agee J. T., Kizir S., Bingül Z.  
JOURNAL OF VIBRATION AND CONTROL, vol.21, pp.2273-2288, 2015 (SCI-Expanded)
- XX. **Higher-order differential feedback control of a flexible-joint manipulator**  
AGEE J. T., BİNGÜL Z., KİZİR S.  
JOURNAL OF VIBRATION AND CONTROL, vol.21, no.10, pp.1976-1986, 2015 (SCI-Expanded)
- XXI. **Tip trajectory control of a flexible-link manipulator using an intelligent proportional integral (iPI) controller**  
AGEE J. T., BİNGÜL Z., KİZİR S.  
TRANSACTIONS OF THE INSTITUTE OF MEASUREMENT AND CONTROL, vol.36, no.5, pp.673-682, 2014 (SCI-Expanded)
- XXII. **Inverse kinematics solutions for industrial robot manipulators with offset wrists**  
KÜÇÜK S., BİNGÜL Z.  
APPLIED MATHEMATICAL MODELLING, vol.38, pp.1983-1999, 2014 (SCI-Expanded)
- XXIII. **Fuzzy impedance and force control of a Stewart platform**  
Kizir S., Bingül Z.  
TURKISH JOURNAL OF ELECTRICAL ENGINEERING AND COMPUTER SCIENCES, vol.22, pp.924-939, 2014 (SCI-Expanded)
- XXIV. **TIME DELAY COMPENSATED VISION BASED STABILIZATION CONTROL OF AN INVERTED PENDULUM**  
KİZİR S., OCAK H., BİNGÜL Z., OYSU C.  
INTERNATIONAL JOURNAL OF INNOVATIVE COMPUTING INFORMATION AND CONTROL, vol.8, no.12, pp.8133-8145, 2012 (SCI-Expanded)
- XXV. **Cascade fuzzy logic control of a single-link flexible-joint manipulator**  
AKYUZ I. H., BİNGÜL Z., KİZİR S.  
TURKISH JOURNAL OF ELECTRICAL ENGINEERING AND COMPUTER SCIENCES, vol.20, no.5, pp.713-726, 2012 (SCI-Expanded)
- XXVI. **Fractional PID controllers tuned by evolutionary algorithms for robot trajectory control**

- Bingül Z., Karahan O.  
TURKISH JOURNAL OF ELECTRICAL ENGINEERING AND COMPUTER SCIENCES, vol.20, pp.1123-1136, 2012 (SCI-Expanded)
- XXVII. **Dynamic identification of Staubli RX-60 robot using PSO and LS methods**  
Bingül Z., Karahan O.  
EXPERT SYSTEMS WITH APPLICATIONS, vol.38, pp.4136-4149, 2011 (SCI-Expanded)
- XXVIII. **A Fuzzy Logic Controller tuned with PSO for 2 DOF robot trajectory control**  
Bingül Z., Karahan O.  
EXPERT SYSTEMS WITH APPLICATIONS, vol.38, pp.1017-1031, 2011 (SCI-Expanded)
- XXIX. **An Off-Line Robot Simulation Toolbox**  
Küçük S., Bingül Z.  
COMPUTER APPLICATIONS IN ENGINEERING EDUCATION, vol.18, pp.41-52, 2010 (SCI-Expanded)
- XXX. **Fuzzy control of a real time inverted pendulum system**  
Kizir S., Bingül Z., Oysu C.  
JOURNAL OF INTELLIGENT & FUZZY SYSTEMS, vol.21, pp.121-133, 2010 (SCI-Expanded)
- XXXI. **Application of heuristic and hybrid-GASA algorithms to tool-path optimization problem for minimizing airtime during machining**  
Oysu C., Bingül Z.  
ENGINEERING APPLICATIONS OF ARTIFICIAL INTELLIGENCE, vol.22, pp.389-396, 2009 (SCI-Expanded)
- XXXII. **Adaptive genetic algorithms applied to dynamic multiobjective problems**  
Bingul Z.  
APPLIED SOFT COMPUTING, vol.7, pp.791-799, 2007 (SCI-Expanded)
- XXXIII. **Hybrid genetic algorithm and simulated annealing for two-dimensional non-guillotine rectangular packing problems**  
Soke A., Bingul Z.  
ENGINEERING APPLICATIONS OF ARTIFICIAL INTELLIGENCE, vol.19, pp.557-567, 2006 (SCI-Expanded)
- XXXIV. **Comparative study of performance indices for fundamental robot manipulators**  
Kucuk S., Bingul Z.  
ROBOTICS AND AUTONOMOUS SYSTEMS, vol.54, no.7, pp.567-573, 2006 (SCI-Expanded)
- XXXV. **A real-time prediction model of electrode extension for GMAW**  
Bingul Z., Cook G.  
IEEE-ASME TRANSACTIONS ON MECHATRONICS, vol.11, pp.47-54, 2006 (SCI-Expanded)
- XXXVI. **Link mass optimization of serial robot manipulators using genetic algorithm**  
Kucuk S., Bingul Z.  
KNOWLEDGE-BASED INTELLIGENT INFORMATION AND ENGINEERING SYSTEMS, PT 1, PROCEEDINGS, vol.4251, pp.138-144, 2006 (SCI-Expanded)
- XXXVII. **Comparison of meta-heuristic hybrid approaches for two dimensional non-guillotine rectangular cutting problems**  
Soke A., Bingul Z.  
ADVANCES IN NATURAL COMPUTATION, PT 3, PROCEEDINGS, vol.3612, pp.1304-1307, 2005 (SCI-Expanded)
- XXXVIII. **Comparison of stochastic and approximation algorithms for one-dimensional cutting problems**  
Bingul Z., Oysu C.  
ADVANCES IN INTELLIGENT COMPUTING, PT 1, PROCEEDINGS, vol.3644, pp.976-985, 2005 (SCI-Expanded)
- XXXIX. **A new PID tuning technique using differential evolution for unstable and integrating processes with time delay**  
Bingul Z.  
NEURAL INFORMATION PROCESSING, vol.3316, pp.254-260, 2004 (SCI-Expanded)
- XL. **Comparison of constant current and pulsed gas metal arc welding processes on basis of electrode resistive dissipation**  
Bingul Z., Cook G., Strauss A.  
SCIENCE AND TECHNOLOGY OF WELDING AND JOINING, vol.8, pp.19-28, 2003 (SCI-Expanded)

- XLI. Instability phenomena in the gas-metal arc welding self-regulation process**  
Bingul Z.  
PROCEEDINGS OF THE INSTITUTION OF MECHANICAL ENGINEERS PART B-JOURNAL OF ENGINEERING MANUFACTURE, vol.216, pp.899-910, 2002 (SCI-Expanded)
- XLII. Dynamic model for electrode melting rate in gas metal are welding process**  
Bingul Z., Cook G., Strauss A.  
SCIENCE AND TECHNOLOGY OF WELDING AND JOINING, vol.6, pp.41-50, 2001 (SCI-Expanded)
- XLIII. Application of fuzzy logic to spatial thermal control in fusion welding**  
Bingul Z., Cook G., Strauss A.  
IEEE TRANSACTIONS ON INDUSTRY APPLICATIONS, vol.36, pp.1523-1530, 2000 (SCI-Expanded)

## Articles Published in Other Journals

- I. Design and development of a ball-screw and electrical motor driven industrial electromechanical cylinder**  
Fotuhi M., KARAMAN C., BİNGÜL Z.  
SIGMA JOURNAL OF ENGINEERING AND NATURAL SCIENCES, vol.40, no.4, pp.822-830, 2022 (ESCI)
- II. COMPARATIVE STUDY OF THE PARALLEL AND ANGULAR ELECTRICAL GRIPPER FOR INDUSTRIAL APPLICATIONS**  
Fotuhi M. J., BİNGÜL Z.  
ACTA MECHANICA ET AUTOMATICA, vol.15, no.2, pp.66-73, 2021 (ESCI)
- III. Design, Analysis and Simulation of a 6-DOF Serial Manipulator**  
Yılmaz Z., Yılmaz O., Bingül Z.  
Kocaeli Journal of Science and Engineering, vol.3, no.1, pp.1-7, 2020 (Peer-Reviewed Journal)
- IV. Human postural ankle torque control model during standing posture with a series elastic muscle-tendon actuator**  
Fotuhi M. J., Yılmaz O., Bingül Z.  
SN APPLIED SCIENCES, vol.2, 2020 (ESCI)
- V. Feasibility Study of Friction Stir Welding Application for Kevlar Material**  
Taşan A., TİRKEŞ S., Öztürk Y., BİNGÜL Z.  
International Journal of Chemical, Molecular, Nuclear, Materials and Metallurgical Engineering, vol.13, pp.213-230, 2019 (Peer-Reviewed Journal)
- VI. Comparison of friction estimation models for rotary triple inverted pendulum**  
Hazem Z. B., Fotuhi M. J., Bingül Z.  
International Journal of Mechanical Engineering and Robotics Research, vol.8, pp.74-78, 2019 (Scopus)
- VII. Development and control of a high precision stewart platform**  
KİZİR S., BİNGÜL Z., KÜÇÜK S., OYSU C.  
SDU International Journal of Technologic Sciences, 2011 (Peer-Reviewed Journal)
- VIII. A Study of Simulated Annealing Algorithm for Solutions of Two Dimensional Non-Guillotine Cutting Problems**  
Soke A., BİNGÜL Z.  
JOURNAL OF POLYTECHNIC-POLITEKNİK DERGISI, vol.8, no.1, pp.25-36, 2005 (ESCI)
- IX. İki Boyutlu Giyotinsiz Kesme Problemlerinin Benzetilmiş Tavlama Algoritması ile Çözümlerinin İncelenmesi**  
Soke A., Bingül Z.  
Politeknik Dergisi, vol.8, no.1, pp.25-36, 2005 (ESCI)
- X. ROBOT SİSTEMLERİNDE KİNEMATİK YÖNTEMLERİN KARŞILAŞTIRILMASI**  
Küçük S., Bingül Z.  
Politeknik Dergisi, vol.7, no.2, pp.107-117, 2004 (ESCI)
- XI. GENETİK ALGORİTMALARIN FARKLI ÇAPRAZLAMA TEKNİKLERİYLE İKİ BOYUTLU KESME**

## PROBLEMLERİNE UYGULANIŞI

Söke A., Bingül Z.

Politeknik Dergisi, vol.7, no.1, pp.1-10, 2004 (ESCI)

### XII. Human-robot interaction over the internet

Sekmen A., Bingül Z., Hombal V., Zein-Sabatto S.

Conference Proceedings - IEEE SOUTHEASTCON, pp.223-228, 2000 (Scopus)

### XIII. Genetic algorithms applied to real time multiobjective optimization problems

Bingül Z., Sekmen A., Palaniappan S., Zein-Sabatto S.

Conference Proceedings - IEEE SOUTHEASTCON, pp.95-103, 2000 (Scopus)

### XIV. Evolutionary approach to multi-objective problems using adaptive genetic algorithms

Bingül Z., Sekmen A., Zein-Sabatto S.

Proceedings of the IEEE International Conference on Systems, Man and Cybernetics, vol.3, pp.1923-1927, 2000 (Scopus)

### XV. Dynamic modeling of GMAW process

Bingül Z., Cook G. E.

Proceedings - IEEE International Conference on Robotics and Automation, vol.4, pp.3059-3064, 1999 (Scopus)

## Books & Book Chapters

### I. Swarm intelligence for controller tuning and control of fractional systems

Bingül Z., Karahan O.

in: Swarm Intelligence - Volume 3: Applications, Ying Tan, Editor, The Institution of Engineering and Technology, London, pp.245-281, 2018

### II. Robot Dinamiği ve Kontrolü

Bingül Z., Küçük S.

Umuttepe Yayınları, Kocaeli, 2017

### III. Robot Kinematiği

Bingül Z., Küçük S.

Umuttepe Yayınları, Kocaeli, 2015

### IV. Dynamic Modeling and Simulation of Stewart Platform

Bingül Z., Karahan O.

in: Serial and Parallel Robot Manipulators: Kinematic Dynamics, Control and Optimization, Serdar Küçük, Editor, INTECH Open, Rijeka, pp.19-41, 2012

### V. Position Control and Trajectory Tracking of the Stewart Platform

KIZIR S., BİNGÜL Z.

in: Serial and Parallel Robot Manipulators Kinematics Dynamics Control and Optimization, Küçük Serdar, Editor, InTech, 2012

### VI. Robot Dinamiği ve Kontrolü

Bingül Z., Küçük S.

Birsen Yayınevi, İstanbul, 2008

### VII. Link Mass Optimization Using Genetic Algorithms for Industrial Robot Manipulators

Bingül Z., Küçük S.

in: Robot Manipulators , Marco Ceccarelli, Editor, IntechOpen, Rijeka, pp.275-290, 2008

### VIII. Link Mass Optimization Using Genetic Algorithms for Industrial Robot Manipulators

KÜÇÜK S., BİNGÜL Z.

in: Robot Manipulators, Marco Ceccarelli, Editor, Intech, pp.275-290, 2008

### IX. Matlab ve Simulinkle Modelleme ve Kontrol II

Bingül Z.

Birsen Yayınevi, İstanbul, 2006

### X. Robot Tekniği I

Bingül Z., Küçük S.

Birsen Yayınevi, İstanbul, 2006

**XI. Robot Kinematics: Forward and Inverse Kinematics**

Bingül Z., Küçük S.

in: Industrial Robotics: Theory, Modelling and Control, Sam Cubero, Editor, IntechOpen, Rijeka, pp.117-148, 2006

**XII. Matlab ve Simulink ile Modelleme ve Kontrol I**

Bingül Z.

Birsen Yayınevi, İstanbul, 2005

## **Refereed Congress / Symposium Publications in Proceedings**

- I. **Game Theory Based Decentralized Multi-Task Allocation Algorithm for Multi-Agent Systems**  
Ozturk H. B., Yavas N. B., Ozturk U., Bingul Z.  
2024 International Congress on Human-Computer Interaction, Optimization and Robotic Applications (HORA), İstanbul, Turkey, 23 - 25 May 2024, pp.1-9
- II. **Development of Optimal Task Allocation Algorithm for Unmanned Aerial Vehicle Swarms**  
Ozturk H. B., Ozturk U., Yavas N. B., Bingül Z.  
AICCONF '24: Proceedings of the Cognitive Models and Artificial Intelligence Conference, İstanbul, Turkey, 25 - 26 May 2024, pp.341-348
- III. **A Comprehensive Comparison of Spatial, Screw, Geometric, and Quaternion Approaches in Snake Robot Kinematics**  
Nasirov A., Bingül Z.  
AICCONF '24: Proceedings of the Cognitive Models and Artificial Intelligence Conference, İstanbul, Turkey, 25 - 26 May 2024, pp.224-231
- IV. **Comparative Study of Anti-swing Controllers for a Triple Link Rotary Pendulum System**  
Hazem Z. B., Bingül Z.  
2023 IEEE 8th International Conference on Engineering Technologies and Applied Sciences (ICETAS) , Manama, Bahrain, 25 - 27 October 2023, pp.10-16
- V. **Determining Robot Trajectory Planning Using Image Processing for Wood Painting**  
Aykut Güllirmak E., Bingül Z.  
2023 7th International Symposium on Multidisciplinary Studies and Innovative Technologies (ISMSIT), Ankara, Turkey, 26 October 2023
- VI. **A Study of Stabilization and Swing-up Linear Control for a Single Link Rotary Pendulum**  
Hazem Z. B., BİNGÜL Z.  
2022 International Conference on Theoretical and Applied Computer Science and Engineering, İstanbul, Turkey, 29 September - 01 October 2022, pp.60-65
- VII. **Design and Control of an Unmanned Underwater Vehicle**  
BİNGÜL Z.  
4th International Symposium on Multidisciplinary Studies and Innovative Technologies, ISMSIT 2020, İstanbul, Turkey, 22 - 24 October 2020
- VIII. **Human postural control model during standing posture with a Series Elastic muscle-tendon Actuator**  
Fotuhi M., YILMAZ O., BİNGÜL Z.  
5th International Conference on Engineering Sciences, Ankara, Turkey, 19 September 2019
- IX. **Modelling and Torque Control of an Non-Linear Friction Inverted Pendulum driven with a Rotary Series Elastic Actuator**  
Fotuhi M., Hazem Z. B., Bingül Z.  
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