

## Assoc. Prof. Bora ŞENER

### Personal Information

**Office Phone:** [+90 212 383 2796](tel:+902123832796)

**Email:** borasen@yildiz.edu.tr

**Other Email:** borasener84@gmail.com

**Web:** <http://avesis.yildiz.edu.tr/borasen/>

### International Researcher IDs

ScholarID: tVmw7hkAAAAJ

ORCID: 0000-0002-8237-1950

Publons / Web Of Science ResearcherID: A-1706-2016

ScopusID: 55705440900

Yoksis Researcher ID: 121065

### Education Information

Doctorate, Yildiz Technical University, Faculty Of Mechanical Engineering, Makine Mühendisliği, Turkey 2012 - 2017

Postgraduate, Istanbul Technical University, Makine Fakültesi, Makine Mühendisliği, Turkey 2009 - 2012

Undergraduate, Yildiz Technical University, Faculty Of Mechanical Engineering, Makine Mühendisliği, Turkey 2003 - 2008

### Dissertations

Doctorate, ÇİFT GÖZLÜ KAPLARIN PARÇALI BASTIRICI İLE DERİN ÇEKİLMESİNDE EN İYİLEME AMAÇLI BİR ALGORİTMA GELİŞTİRİLMESİ, Yıldız Teknik Üniversitesi, Faculty of Mechanical Engineering, Makine Mühendisliği, 2017

Postgraduate, OTOMOTİV SEKTÖRÜNDE KULLANILAN DERİN ÇEKME SAÇLARININ ŞEKİLLENDİRİLEBİLİRLİĞİNİN ANALİZİ, İstanbul Teknik Üniversitesi, Makine Mühendisliği, Malzeme Ve İmalat, 2012

### Research Areas

Mechanical Engineering, Construction and Manufacturing, Plastic Forming Methods, Engineering and Technology

### Academic Titles / Tasks

Associate Professor, Yildiz Technical University, Faculty Of Mechanical Engineering, Department Of Mechanical Engineering, 2025 - Continues

Assistant Professor, Yildiz Technical University, Faculty Of Mechanical Engineering, Department Of Mechanical Engineering, 2020 - 2025

Research Assistant PhD, Yildiz Technical University, Faculty Of Mechanical Engineering, Department Of Mechanical Engineering, 2017 - 2020

Research Assistant, Yildiz Technical University, Faculty Of Mechanical Engineering, Department Of Mechanical Engineering, 2011 - 2017

## Academic and Administrative Experience

Deputy Head of Department, Yildiz Technical University, Faculty Of Mechanical Engineering, Department Of Mechanical Engineering, 2024 - Continues

## Courses

Mechanics of Metal Forming, Undergraduate, 2023 - 2024, 2021 - 2022, 2020 - 2021  
Manufacturing Processes, Undergraduate, 2023 - 2024, 2022 - 2023  
Metal Şekillendirmede Sonlu Elemanlar Metodu ve Uygulamaları, Postgraduate, 2023 - 2024, 2022 - 2023  
Computer Aided Design in Manufacturing, Undergraduate, 2022 - 2023, 2021 - 2022, 2020 - 2021, 2019 - 2020  
Özel Laboratuvar, Undergraduate, 2023 - 2024, 2022 - 2023  
MANUFACTURING PROCESSES 1, Undergraduate, 2022 - 2023, 2021 - 2022, 2020 - 2021  
Talaşsız Şekillendirmede Analiz ve Gelişmeler I, Postgraduate, 2022 - 2023, 2021 - 2022  
Basic Computer Science, Undergraduate, 2022 - 2023, 2021 - 2022, 2020 - 2021, 2019 - 2020, 2018 - 2019  
Statistics in Engineering, Undergraduate, 2020 - 2021  
Manufacturing Methods, Undergraduate, 2021 - 2022  
Laboratuvar, Undergraduate, 2020 - 2021

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

- I. **A comparative study on the identification methods for calibration of the orthotropic yield surface and its effect on the sheet metal forming simulations**  
ŞENER B.  
Archive of Applied Mechanics, vol.94, no.10, pp.3049-3069, 2024 (SCI-Expanded)
- II. **Parameter identification of Yoshida-Uemori combined hardening model by using a variable step size firefly algorithm**  
ŞENER B.  
Materialpruefung/Materials Testing, vol.66, no.8, pp.1292-1300, 2024 (SCI-Expanded)
- III. **Investigation of the influence of plane strain constrained anisotropic plastic flow on the localized necking prediction**  
Şener B.  
Engineering Computations (Swansea, Wales), vol.41, no.4, pp.966-990, 2024 (SCI-Expanded)
- IV. **A Numerical Prediction for Hole-Splitting Damage of DP Steels Based on Plastic Work Criterion Using a Polynomial Stress Potential**  
Firat M., Akşen T., ŞENER B., ESENER E.  
Experimental Techniques, vol.48, no.3, pp.501-522, 2024 (SCI-Expanded)
- V. **Evaluation of ductile fracture criteria in combination with a homogenous polynomial yield function for edge splitting damage of DP steels**  
Akşen T. A., ŞENER B., ESENER E., Firat M.  
Materialpruefung/Materials Testing, vol.65, no.6, pp.824-843, 2023 (SCI-Expanded)
- VI. **A Numerical Evaluation of Forming Failure of an Aluminum Sheet due to Splitting Damage in Hole Expansion Process**  
Aksen T. A., ŞENER B., Firat M.  
Journal of Testing and Evaluation, vol.51, no.4, 2023 (SCI-Expanded)
- VII. **Earing prediction of 2090-T3 aluminum-cups using a complete homogenous fourth-order polynomial yield function**  
Firat M., ŞENER B., Akşen T. A., ESENER E.  
Materialpruefung/Materials Testing, vol.64, no.10, pp.1480-1494, 2022 (SCI-Expanded)

- VIII. **Analysis of ESAFORM 2021 cup drawing benchmark of an Al alloy, critical factors for accuracy and efficiency of FE simulations**  
Habraken A. M., Aksen T. A., Alves J. L., Amaral R. L., Betaieb E., Chandola N., Corallo L., Cruz D. J., Duchêne L., Engel B., et al.  
International Journal of Material Forming, vol.15, no.5, 2022 (SCI-Expanded)
- IX. **Effects of process parameters on the formability of sheet metal during plastic injection forming**  
ŞEN M., ŞENER B., EKŞİ ALTAN M.  
Materialpruefung/Materials Testing, vol.62, no.5, pp.535-543, 2020 (SCI-Expanded)
- X. **Optimum spatial variable blank holder forces determined by the sequential response surface method (SRSM) and a hybrid algorithm**  
Şener B., Yurci M. E., Bogoclu M. E.  
MATERIALS TESTING, vol.61, pp.353-361, 2019 (SCI-Expanded)
- XI. **The Effects of Anisotropic Yield Functions on Plastic Behavior of 304 Stainless Steel**  
Şener B., Yurci M. E.  
JOURNAL OF TESTING AND EVALUATION, vol.46, pp.2584-2591, 2018 (SCI-Expanded)
- XII. **Numerical parameters for deep drawing simulation of a double bowl sink**  
Şener B., Yurci M. E.  
MATERIALS TESTING, vol.59, pp.480-484, 2017 (SCI-Expanded)
- XIII. **Comparison of Quasi-Static Constitutive Equations and Modeling of Flow Curves for Austenitic 304 and Ferritic 430 Stainless Steels**  
Şener B., Yurci M. E.  
ACTA PHYSICA POLONICA A, vol.131, pp.605-607, 2017 (SCI-Expanded)
- XIV. **Numerical and Experimental Investigation of Friction Effect in Limiting Dome Height Test**  
Şener B., Kayali E. S.  
JOURNAL OF TESTING AND EVALUATION, vol.44, pp.1580-1584, 2016 (SCI-Expanded)
- XV. **Optimization of process parameters for rectangular cup deep drawing by the Taguchi method and genetic algorithm**  
Şener B., Kurtaran H.  
MATERIALS TESTING, vol.58, pp.238-245, 2016 (SCI-Expanded)
- XVI. **MODELING THE DEEP DRAWING OF AN AISI 304 STAINLESS-STEEL RECTANGULAR CUP USING THE FINITE-ELEMENT METHOD AND AN EXPERIMENTAL VALIDATION**  
Şener B., Kurtaran H.  
MATERIALI IN TEHNOLOGIJE, vol.50, pp.961-965, 2016 (SCI-Expanded)
- XVII. **Lubrication effects during biaxial stretch forming of galvanized steel compared to interstitial-free steel**  
Şener B., Kayali E. S., Küçükyıldırım B. O.  
Materialpruefung/Materials Testing, vol.56, pp.962-968, 2014 (SCI-Expanded)

## Articles Published in Other Journals

- I. **On the effect of numerical parameters in finite element through thickness modeling for springback prediction**  
ŞENER B., Aksen T. A., EŞENER E., Firat M.  
Research on Engineering Structures and Materials, vol.8, no.4, pp.799-809, 2022 (Scopus)
- II. **Investigation of the Prediction Capability of Yld89 Yield Criterion for Highly Anisotropic Sheet Materials**  
Şener B.  
Journal of Advances in Manufacturing Engineering, vol.2, no.1, pp.7-13, 2021 (Peer-Reviewed Journal)
- III. **On the Effect of Through-Thickness Integration for the Blank Thickness and Ear Formation in Cup Drawing FE Analysis**

ŞENER B., AKŞEN T. A., FIRAT M.

European Mechanical Science, vol.5, no.2, pp.51-55, 2021 (Peer-Reviewed Journal)

**IV. Modeling plastic anisotropy evolution of AISI 304 steel sheets by a polynomial yield function**

ŞENER B., ESENER E., FIRAT M.

SN Applied Sciences, vol.3, no.2, 2021 (ESCI)

**V. Investigation of performances of sequential quadratic programming and active-set methods in the determination of YLD2000 yield function parameters**

ŞENER B.

Niğde Ömer Halisdemir Üniversitesi Mühendislik Bilimleri Dergisi, vol.10, no.2, pp.763-769, 2021 (Peer-Reviewed Journal)

**VI. Description of Anomalous Behavior of Aluminum Alloys with Hill48 Yield Criterion by Using Different Experimental Inputs and Weight Coefficients**

ŞENER B.

Journal of Applied and Computational Mechanics, vol.7, no.3, pp.1606-1619, 2021 (ESCI)

## Books & Book Chapters

**I. On the Use of Homogeneous Polynomial Yield Functions in Sheet Metal Forming Analysis**

FIRAT M., ŞENER B., AKŞEN T. A., ESENER E.

in: Recent Advances in Polynomials, Kamal Shah, Editor, IntechOpen Book, London, pp.85-98, 2021

## Refereed Congress / Symposium Publications in Proceedings

**I. Influence of the calibration test on the fracture initiation prediction in rectangular cup drawing process**

Aksen T. A., ŞENER B., ESENER E., FIRAT M.

3rd International Workshop on Plasticity, Damage and Fracture of Engineering Materials, IWPDF 2023, İstanbul, Turkey, 4 - 06 October 2023, vol.61, pp.260-267

**II. Fracture forming limit curve prediction by ductile fracture models**

Aksen T. A., ŞENER B., ESENER E., KOCABIÇAK Ü., FIRAT M.

3rd International Workshop on Plasticity, Damage and Fracture of Engineering Materials, IWPDF 2023, İstanbul, Turkey, 4 - 06 October 2023, vol.61, pp.268-276

**III. Investigation of the Characteristics of AA6060 Alloy Under Three-Point Bending Using Experimental and Numerical Methodologies**

Demir D., Şener B., Esener E.

7th International Conference on Computational Mathematics and Engineering Sciences, Elazığ, Turkey, 20 - 21 May 2023, pp.139-147

**IV. Numerical Investigation of Factors Affecting the Material Flow in Square Cup Deep Drawing**

Acar M., Şener B.

International Conference and Emerging Sources in Science (ESCICONF 2022), İstanbul, Turkey, 26 - 27 May 2022, pp.110-117

**V. Prediction of Earing Profile in Cup Drawing Test Using Hill48 Criterion**

Akşen T. A., Şener B., Esener E., Firat M.

10th International Automotive Technologies Congress (OTEKON2020), Bursa, Turkey, 6 - 07 September 2021, pp.1051-1057

**VI. Variation of Anisotropy with Plastic Strain and Its Effect on the Yield Surface Shape of Austenitic Stainless Steel**

Şener B., Akşen T. A., Firat M.

5th International Iron & Steel Symposium (UDCS'21), Karabük, Turkey, 1 - 03 April 2021, pp.37-39

- VII. **Development of a 3-D Die Surface Compensation Method based on Part Springback Distribution**  
Esener E., Şener B., Fırat M.  
5th International Iron&Steel Symposium (UDCS'21), Karabük, Turkey, 1 - 03 April 2021, pp.21-24
- VIII. **Edge Thinning Prediction of a Hole Under Stretching**  
Akşen T. A., Şener B., Esener E., Fırat M.  
5th International Iron&Steel Symposium (UDCS'21), Karabük, Turkey, 1 - 03 April 2021, pp.33-36
- IX. **Failure Prediction in Hole Expansion Test Using Plastic Work Criterion**  
Aksen T. A., Şener B., Esener E., Fırat M.  
2nd International Workshop on Plasticity, Damage and Fracture of Engineering Materials, IWPDF 2021, Ankara, Turkey, 18 - 20 August 2021, vol.35, pp.82-90
- X. **Modelling Anisotropic Behavior of AISI 304 Stainless Steel Sheet Using a Fourth-Order Polynomial Yield Function**  
Şener B., Kilicarslan E. S., Fırat M.  
23RD INTERNATIONAL CONFERENCE ON MATERIAL FORMING, vol.47, pp.1456-1461
- XI. **Failure Prediction Capability of Generalized Plastic Work Criterion**  
Aksen T. A., Şener B., Fırat M.  
23RD INTERNATIONAL CONFERENCE ON MATERIAL FORMING, vol.47, pp.1235-1240
- XII. **Earing Prediction of a Cup Drawing Process based on the Quadratic Hill Yield Function**  
Aksen T. A., Şener B., Esener E., Fırat M.  
International Conference on Engineering Technology and Innovation, Belgrade, Serbia And Montenegro, 17 - 21 April 2019, pp.30-38
- XIII. **Determining the Effect of Yield Criterias on Plasticity Modeling in Different Plastic Strain Levels**  
Şener B., Esener E., Fırat M.  
9th International Automotive Technologies Congress (OTEKON 2018), Bursa, Turkey, 7 - 08 May 2018, pp.754-760
- XIV. **Investigation of Lubrication Effects in the Right Side of the Forming Limit Diagrams**  
Şener B., Kayali E. S.  
International Conference of Computational Methods in Sciences and Engineering 2014 (ICCMSE), Athens, Greece, 4 - 07 April 2014, vol.1618, pp.335-338
- XV. **Effectiveness of Stamping Lubricants in Erichsen Test**  
Şener B., Kayali E. S.  
15th International Conference on Sheet Metal (SheMet 2013), Belfast, United Kingdom, 25 - 27 March 2013, vol.549, pp.325-327
- XVI. **Derin Çekme Kalite Sacların Şekillendirme Sınır Diyagramlarının Belirlenmesi**  
Şener B., Gülmez T., Yurci M. E.  
14th International Materials Symposium (IMSP'2012), Denizli, Turkey, 10 - 12 October 2012, pp.363-370

## Other Publications

- I. **2090 Alüminyum Alaşımının Kulaklanma Profilinin Ls-Dyna Kullanıcı Tanımlı Malzeme Modeli Kullanılarak Tahmini**  
Şener B., Esener E., Fırat M.  
Presentation, pp.1-14, 2019
- II. **Otomotiv Sektöründe Kullanılan Derin Çekme Saclarının Şekillendirilebilirlik Analizi**  
Şener B.  
Presentation, pp.1-36, 2011

## Supported Projects

Fırat M., Şener B., Akşen T. A., Esener E., Toros S., TÜBİTAK Project, Development of a Stamping - Die Face Design System

for Advanced High Strength Steels (AHSS), 2024 - 2027

ŞENER B., ESENER E., AKŞEN T. A., FIRAT M., Project Supported by Higher Education Institutions, Çift Fazlı Çeliklerin Kenar Gerdirilebilirliğinin Deneysel ve Nümerik İncelenmesi, 2019 - 2021

BOĞOÇLU M. E., ŞENER B., Project Supported by Higher Education Institutions, ÇİFT GÖZLÜ KAPLARIN PARÇALI BASTIRICI İLE DERİN ÇEKİLMESİNDE EN İYİLEME AMAÇLI BİR ALGORİTMA GELİŞTİRİLMESİ, 2014 - 2018

Şener B., Yurci M. E., Koçan C., TUBITAK Project, ÇOK NOKTADAN POT KONTROLLÜ HİDROLİK DERİN ÇEKME PRESİ TASARIMI ve PROTOTİP ÜRETİMİ, 2015 - 2017

ŞENER B., Project Supported by Higher Education Institutions, OTOMOTİV SEKTÖRÜNDE KULLANILAN DERİN ÇEKME KALİTE SAÇLARIN ŞEKİLLENDİRİLEBİLİRLİĞİNİN ANALİZİ, 2011 - 2013

## Scientific Refereeing

JOURNAL OF TESTING AND EVALUATION, SCI Journal, December 2023

SCIENTIFIC REPORTS, Journal Indexed in SCI-E, September 2023

SIGMA JOURNAL OF ENGINEERING AND NATURAL SCIENCES, Journal Indexed in ESCI, December 2022

Niğde Ömer Halisdemir Üniversitesi Mühendislik Bilimleri Dergisi, National Scientific Refreed Journal, June 2022

JOURNAL OF THE BRAZILIAN SOCIETY OF MECHANICAL SCIENCES AND ENGINEERING, SCI Journal, May 2022

Niğde Ömer Halisdemir Üniversitesi Mühendislik Bilimleri Dergisi, National Scientific Refreed Journal, April 2022

ALKÜ Fen Bilimleri Dergisi, National Scientific Refreed Journal, March 2022

European Mechanical Science, National Scientific Refreed Journal, February 2022

Journal of Advances in Manufacturing Engineering, National Scientific Refreed Journal, December 2021

Niğde Ömer Halisdemir Üniversitesi Mühendislik Bilimleri Dergisi, National Scientific Refreed Journal, December 2021  
TUBITAK Project, 2209-B - Sanayiye Yönelik Lisans Araştırma Projeleri Destekleme Programı, TÜBİTAK, Turkey, October 2021

TUBITAK Project, 2209-B - Sanayiye Yönelik Lisans Araştırma Projeleri Destekleme Programı, TÜBİTAK, Turkey, October 2021

TUBITAK Project, 2209-B - Sanayiye Yönelik Lisans Araştırma Projeleri Destekleme Programı, TÜBİTAK, Turkey, October 2021

TUBITAK Project, 2209-B - Sanayiye Yönelik Lisans Araştırma Projeleri Destekleme Programı, TÜBİTAK, Turkey, October 2021

JOURNAL OF THE BRAZILIAN SOCIETY OF MECHANICAL SCIENCES AND ENGINEERING, SCI Journal, September 2021

TUBITAK Project, 2219 - Yurt Dışı Doktora Sonrası Araştırma Burs Programı, TÜBİTAK, Turkey, August 2021

TUBITAK Project, 2219 - Yurt Dışı Doktora Sonrası Araştırma Burs Programı, Yıldız Technical University, Turkey, August 2021

TUBITAK Project, 2219 - Yurt Dışı Doktora Sonrası Araştırma Burs Programı, Yıldız Technical University, Turkey, August 2021

Niğde Ömer Halisdemir Üniversitesi Mühendislik Bilimleri Dergisi, National Scientific Refreed Journal, April 2021

Bilecik Şeyh Edebali Üniversitesi Fen Bilimleri Dergisi, National Scientific Refreed Journal, February 2021

International Journal of Automotive Science and Technology, National Scientific Refreed Journal, November 2020

European Mechanical Science, National Scientific Refreed Journal, July 2020

Bilecik Şeyh Edebali Üniversitesi Fen Bilimleri Dergisi, National Scientific Refreed Journal, July 2020

Makina Tasarım ve İmalat Dergisi, National Scientific Refreed Journal, July 2020

Bilecik Şeyh Edebali Üniversitesi Fen Bilimleri Dergisi, National Scientific Refreed Journal, July 2020

Bilecik Şeyh Edebali Üniversitesi Fen Bilimleri Dergisi, National Scientific Refreed Journal, December 2019

ENGINEERING OPTIMIZATION, Journal Indexed in SCI-E, November 2019

Bilecik Şeyh Edebali Üniversitesi Fen Bilimleri Dergisi, National Scientific Refreed Journal, November 2019

Bilecik Şeyh Edebali Üniversitesi Fen Bilimleri Dergisi, National Scientific Refreed Journal, April 2019

Avrupa Bilim ve Teknoloji Dergisi, National Scientific Refreed Journal, April 2019

SIGMA JOURNAL OF ENGINEERING AND NATURAL SCIENCES-SIGMA MUHENDISLIK VE FEN BILIMLERI DERGISI, Journal Indexed in ESCI, July 2018

## **Tasks In Event Organizations**

Şener B., 4th INTERNATIONAL CONFERENCE ON ADVANCES IN MECHANICAL ENGINEERING (ICAME 2018), Scientific Congress, İstanbul, Turkey, Aralık 2018

## **Metrics**

Publication: 42

Citation (WoS): 98

Citation (Scopus): 101

H-Index (WoS): 6

H-Index (Scopus): 7