

CURRICULUM VITAE

Mehmet A. Guler, Ph.D., Professor of Mechanical Engineering
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EDUCATION

- LEHIGH UNIVERSITY** **Bethlehem, PA, USA**
Ph.D., Mechanical Engineering, **2001**
Emphasis on contact mechanics of ceramics, applied mathematics and numerical methods
Dissertation: “Contact Mechanics of FGM Coatings”
Advisor: Prof. F. Erdogan
- LEHIGH UNIVERSITY** **Bethlehem, PA, USA**
M.S., Mechanical Engineering, **1996**
Emphasis on punch problems for graded materials, numerical methods.
Thesis: “The problem of a rigid punch with friction on a graded elastic medium”
Advisor: Prof. F. Erdogan
- UNIVERSITY OF SUSSEX** **Brighton, UK**
M.S., Computer Technology in Manufacturing **1991**
Emphasis on control systems, simulation, computer aided design and manufacturing
Thesis: “Self organizing control of hardboard manufacturing and coupled tank systems”
Advisor: Prof. A. W. Self
- MIDDLE EAST TECHNICAL UNIVERSITY (METU)** **Turkey**
B.S., Mechanical Engineering **1990**
Thesis: “Computer aided selection of DC servomotors”
Advisor: Prof. I. H. Filiz

RESEARCH INTERESTS

- Peridynamics and nonlocal modeling of composite materials
- Contact and Fracture Mechanics
- Mechanics based Analysis of Functional and Multifunctional Materials
- Crashworthiness and impact analysis in Automotive industry
- Structural design for rollover, frontal or rear end crash scenarios in automotive industry

ACADEMIC EXPERIENCE

- TOBB UNIVERSITY OF ECONOMICS AND TECHNOLOGY** **Ankara, TURKEY**
Professor **10/2015-present**
Associate Professor **09/2010-10/2015**
Assistant Professor **09/2006-09/2010**
- Taught courses from sophomore level to graduate level, which covered the areas of statics, dynamics, machine design, finite element method for mechanical engineers and theory of elasticity.
 - Conducted research in the areas of mechanics of thin films on graded coatings, explicit dynamic analysis, crashworthiness in automotive industry, simulation of forming and springback and rotary bending of tubes
- NEAR EAST UNIVERSITY** **Nicosia, N. CYPRUS**
Visiting Professor **09/2014 – present**
- Taught junior level machine design courses
- UNIVERSITY of ARIZONA** **Tucson, AZ, USA**
Visiting Research Scholar **01/2014 – 07/2014**
- Conducted research in modeling hyperelastic materials using peridynamic theory for the project funded by Department of Aerospace and Mechanical Engineering of University of Arizona
- Fulbright Scholar** **08/2013 – 01/2014**
- Conducted research in modeling composite materials using peridynamic theory for the project titled “Development of a method to predict strength and failure of layered composites using peridynamic theory” funded by Fulbright

VIRGINIA COMMONWEALTH UNIVERSITY

Richmond, VA, USA

Visiting Research Scholar

2007

- Conducted research in springback prediction of Advanced High Strength Steels used in automobile components.

LEHIGH UNIVERSITY

Bethlehem, PA, USA

Research Assistant

01/1994-09/2000

- Research focused on stress analysis and fracture characterization of ceramic coatings on metal substrates, involving both mechanical and thermal stresses. Developed analytical models to study the contact mechanics of Functionally Gradient Materials (FGMs). Applied these models to problems ranging from thermal barrier coatings to biological systems like bones.

**TEACHING
EXPERIENCE**

TOBB UNIVERSITY OF ECONOMICS AND TECHNOLOGY

Ankara, TURKEY

Taught or currently teaching the following undergraduate and graduate courses (2006-present)

MAK 104 **Statics** [(Spring – 2007, 2008) (Summer – 2008)]

MAK 203 **Dynamics** [(Fall – 2006)]

MAK 206 **Strength of Materials** [(Fall – 2006) (Summer – 2008) (Spring – 2013, 2015)]

MAK 312 **Machine Elements** [(Fall - 2008, 2014, 2015) (Spring – 2010, 2012)]

MAK 404 **Mechanical System Design** [(Spring – 2009) (Fall – 2009, 2011) (Summer – 2012)]

MAK 444 **Automotive Engineering** [(Spring – 2013)]

MAK 410 **Finite Element Methods** [(Fall – 2008)]

MAK 501 **Engineering Mathematics** [(Fall – 2010, 2011, 2012, 2014, 2015)]

MAK 506 **Theory of Elasticity** [(Spring – 2009) (Fall – 2010)]

MAK 510 **Finite Element Methods** [(Spring 2007)]

NEAR EAST UNIVERSITY

Nicosia, N. CYPRUS

Taught or currently teaching the following undergraduate courses (2014-present)

ME 303 **Machine Design I** [(Fall – 2014, 2015)]

ME 304 **Machine Design II** [(Spring – 2015, 2016)]

**INDUSTRIAL
EXPERIENCE**

ARCELIK DISHWASHER INC.

Ankara, TURKEY

Project Supervisor

09/2013-09/2015

- Principal investigator of the industrial project titled “Optimization of the structural parts and packaging of a dishwasher using Finite Element Method” funded by The Scientific and Technical Research Council of Turkey (TÜBİTAK TEYDEB Project number 5150016)

OYAK RENAULT

Bursa, TURKEY

Consultant

09/2011-06/2013

- Helped Renault Engineers in doing FEA analysis of side crush analysis for the project titled “Renault Fluence mid-floor part monolithic design and production of the prototype by hot forming technology” funded by The Scientific and Technical Research Council of Turkey (TÜBİTAK TEYDEB Project number 3110357)
- performed dynamic Analysis of a VSP support bracket
- designed a shock absorbing component for a front bumper
- conducted frontal crash analysis for the design of an automobile cockpit carrier

GE MARMARA TECHNOLOGY CENTER (GE MTC)

Gebze, TURKEY

Consultant

01/2010-04/2010

- Helped GE MTC Engineers in doing FEA analysis of Aircraft Engine components using ANSYS

TEMSA GLOBAL

Adana, TURKEY

Project Supervisor

09/2008-09/2010

- Principal Investigator of the industrial project titled “Development of passive safety system for absorbing crash energy during frontal crashes involving intercity busses” funded by Ministry of Industry and Trade of Turkey under the scope of SAN-TEZ project

MEHMET A. GULER, P. 3
Adana, TURKEY
03/2005-09/2006

TEMSA GLOBAL
Senior Structural Engineer

- Managed all phases of bus rollover simulation projects (ECE R66), including building the FEA models in ANSA, preparation of mass lists, verification of all necessary analysis data (e.g. center of gravity and mass moment of inertias of rigid components, engine, axles, fuel pump, AC etc), analysis setup in LS-DYNA, running, verification, and certification.
- Performed 3D stress analysis of automotive parts under structural and dynamic loads using ANSYS and determined the critical locations and suggested design changes to obtain maximum life of components.
- Carried out modal analysis of various type of busses and created animations to illustrate several modes of excitation.

CD-ADAPCO (Analysis Design and Application Company)
Senior Structural Engineer

Melville, NY, USA
09/2000-09/2004

- Reviewed contracts with customer to determine analysis requirements and goals and best methods to achieve them.
- Identified possible causes of failure of a glass lining in a reactor.
- Conducted single cylinder thermal analysis of a six-cylinder diesel engine to understand the thermal behavior of the cylinder and the head.
- Performed 3D stress analysis of rotating parts in the gas turbines and compressors under thermal, structural and dynamic loads using ANSYS.
- Carried out modal analysis of a generator and created a movie to illustrate several modes of excitation.
- Performed thermal and structural analysis of EGR coolers used in truck engines, identified the regions susceptible to cracking and recommended design changes to obtain maximum life of the components.
- Models included thermal and structural loading, intermittent contact, friction and non-linear material properties.
- Created numerous programs and scripts to automate model generation, analysis set-up, and verification.

HONORS & AWARDS

- Fulbright Visiting Research scholarship to University of Arizona, 2013
- The most cited articles since 2012 for the paper entitled "[The effect of geometrical parameters on the energy absorption characteristics of thin-walled structures under axial impact loading](#)" in International Journal of Crashworthiness
- The most cited articles published since 2010 for the paper entitled "[Multi-objective crashworthiness optimization of tapered thin-walled tubes with axisymmetric indentations](#)" in Thin-Walled Structures
- The most cited articles published from 2004 to 2008 for the paper entitled "[Contact mechanics of graded coatings](#)" in International Journal of Solids and Structures.
- Scholarship for graduate studies abroad, Turkish Higher Education Council, 1993-1999.

PROFESSIONAL ACTIVITIES

Reviewer for the following technical journals

- Mechanics of Materials,
- International Journal of Solids and Structures,
- International Journal of Mechanical Sciences.
- European Journal of Mechanics - A/Solids,
- Acta Mechanica,
- Surface & Coatings Technology,
- Journal of Material Processing and Technology,
- Mechanics Research Communications,
- International Journal of Vehicle Design,
- Journal of Reinforced Plastics and Composites,
- Journal of Aerospace Engineering,
- The Arabian Journal for Science and Engineering,
- International Journal of Fatigue,
- Gazi University Journal of Science

PUBLICATIONS

Google Scholar citations: 685, h-index = 12,

Web of Science (Thomas Reuters) citations = 464, h-index = 10

- R. Elloumi, I. Kallel-Kamoun, S. El-Borgi, **M.A. Guler** (2016), "[The contact problem of a rigid stamp with friction on a functionally graded magneto-electro-elastic half-plane](#)", Acta Mechanica, Vol. 227, pp. 1123 – 1156.
- Y. Alinia, A. Beheshti, **M.A. Guler**, S. El-Borgi, A. Polycarpou (2016), "[Sliding contact analysis of functionally graded coating/substrate system](#)", Mechanics of Materials, Vol. 68, pp. 207-216.
- **M.A. Guler**, M. Ozturk, A. Kucuksucu, (2016), "[The frictional contact problem of a rigid stamp sliding over a graded medium](#)", Key Engineering Materials, Vol. 681, pp. 155-174.
- A. Kucuksucu, **M.A. Guler**, A. Avci (2015), "Mechanics of sliding frictional contact for a graded orthotropic half-plane", Acta Mechanica, Vol. 226 , pp. 3333-3374.
- S. El-Borgi, S. Usman, **M.A. Guler** (2014), "A Frictional Receding Contact Plane Problem Between a Functionally Graded Layer and a Homogeneous Substrate", International Journal of Solids and Structures, Vol. 51, pp. 4462-4476.
- A. Kucuksucu, **M.A. Guler**, A. Avci (2014), "Closed-form solution of the frictional sliding contact problem for an orthotropic elastic half-plane indented by a wedge-shaped punch", Key Engineering Materials, Vol. 618 , pp. 203-225.
- **M.A. Guler** (2014), "Closed-form solution of the two-dimensional sliding frictional contact problem for an orthotropic medium", International Journal of Mechanical Sciences, Vol. 87, pp. 72-88.
- R. Elloumi, I. Kallel-Kamoun, S. El-Borgi, **M.A. Guler** (2014), "On the frictional sliding contact problem between a rigid circular conducting punch and a magneto-electro-elastic half-plane", International Journal of Mechanical Sciences, Vol. 87 , pp. 1-17.
- Y. Alinia, **M.A. Guler**, S. Adibnazari (2014), "The effect of material property grading on the rolling contact stress field", Mechanics Research Communications, Vol. 55 , pp. 45-52.
- Y. Alinia, **M.A. Guler**, S. Adibnazari (2014), "On the contact mechanics of a rolling cylinder on a graded coating. Part 1: Analytical formulation", Mechanics of Materials, Vol. 68 , pp. 207-216.
- **M.A. Guler**, Y. Alinia, S. Adibnazari (2013), "On the contact mechanics of a rolling cylinder on a graded coating. Part 2: Numerical results", Mechanics of Materials, Vol. 66 , pp. 134-159.
- R. Elloumi, **M.A. Guler**, I. Kallel-Kamoun, S. El-Borgi, (2013), "Closed-form solutions of the frictional sliding contact problem for a Magneto-electro-elastic half-plane indented by a rigid conducting punch", International Journal of Solids and Structures, Vol. 50 (24), pp. 3778-3792.
- S. Dag, **M.A. Guler**, B. Yildirim, A.C. Ozatag, A.C. (2013), "Frictional Hertzian contact between a laterally graded elastic medium and a rigid circular stamp". Acta Mechanica, Vol. 224 (8), pp. 1773-1789.
- **M.A. Guler**, Y. Alinia and S. Adibnazari, (2012), "On the rolling contact problem of two elastic solids with graded coatings", International Journal of Mechanical Sciences, Vol. 64, pp. 62-81.
- L. Sözen, **M.A. Guler**, D. Bekar and E. Acar, (2012), "Investigation and prediction of springback in rotary-draw tube bending process using finite element method", Journal of Mechanical Engineering Science, Proceedings of the Institution of Mechanical Engineers Part C, Vol. 226, pp. 2967-2981.
- D. Bekar, E. Acar, F. Ozer and **M.A. Guler**, (2012), "Analyzing batch-to-batch and part-to-part springback variation of DP600 steels using double loop Monte Carlo simulation", Journal of Engineering Manufacture, Proceedings of the Institution of Mechanical Engineers Part B., Vol. 26 (8), pp. 1321-1333.
- D. Bekar, E. Acar, F. Ozer and **M.A. Guler**, (2012), "Robust springback optimization of a dual phase steel seven-flange die assembly", Structural and Multidisciplinary Optimization, Vol. 46 (3), pp. 425-444.
- **M.A. Guler**, Y.F. Gülver and E. Nart, (2012), "Contact analysis of thin films bonded to graded coatings", International Journal of Mechanical Sciences, Vol. 55 (1), pp. 50-64.
- **M.A. Guler**, S. Adibnazari and Y. Alinia, (2012), "Tractive rolling contact mechanics of graded coatings", International Journal of Solids and Structures, Vol. 49, pp. 929-945.
- S. Dag, T. Apatay, **M.A. Guler**, M. Gulgeç, (2012), "A surface crack in a graded coating subjected to sliding frictional contact", Engineering Fracture Mechanics, Vol. 80, pp. 72-91.
- **M.A. Guler**, A.O. Atahan and B. Bayram, (2011), "Crashworthiness evaluation of an intercity coach against rollover accidents", International Journal Heavy Vehicle Systems, 18 (1), pp. 64 - 82.

- E. Acar, **M.A. Guler**, B. Gerçeker, M.E. Cerit, B. Bayram, (2011) "Multi-objective crashworthiness optimization of tapered thin-walled tubes with axisymmetric indentations," *Thin-Walled Structures*, 49, pp. 94-105.
- T. Apatay, S. Dag, **M.A. Guler**, M. Gulgeç, (2010), "Subsurface contact stresses in a functionally graded coating loaded by a frictional flat stamp", *Journal of the Faculty of Engineering and Architecture of Gazi University*, 25 (3), pp. 611-623.
- **M.A. Guler**, F. Ozer, M. Yenice, M. Kaya (2010), "Springback prediction of DP600 steels for various material models", *Steel Research International*, 81 (9), pp. 801-804.
- **M.A. Guler**, M.E. Cerit, B. Bayram, B. Gerçeker and E. Karakaya, (2010), "The effect of geometrical parameters on the energy absorption characteristics of thin-walled structures under axial impact loading", *International Journal of Crashworthiness*, 15 (4), pp. 377 – 390.
- S. Dag, **M.A. Guler**, B. Yildirim, A.C. Ozatag, (2009), "Sliding frictional contact between a rigid punch and a laterally graded elastic medium", *International Journal of Solids and Structures*, Vol. 46 (22-23), pp. 4038-4053.
- **M.A. Guler**, (2008), "Mechanical modeling of thin films and cover plates bonded to graded substrates", *Journal of Applied Mechanics - Transactions of the ASME, Special Issue Honoring Professor Fazil Erdogan's Contributions to Mixed Boundary Value Problems of Inhomogeneous and Functionally Graded Materials*, edited by M.-J. Pindera and G.H. Paulino, Vol. 75 (5), Article Number: 051105.
- **M.A. Guler**, K. Elitok, B. Bayram and U. Stelzmann, (2007), "The influence of seat structure and passenger weight on the rollover crashworthiness of an intercity coach", *International Journal of Crashworthiness*, Vol. 12 (6), pp. 567 – 580.
- **M.A. Guler** and F. Erdogan, (2007), "The frictional sliding contact problems of rigid parabolic and cylindrical stamps on graded coatings", *International Journal of Mechanical Sciences*, Vol. 49 (2), pp. 161-182.
- **M.A. Guler** and F. Erdogan, (2006), "Contact mechanics of two deformable elastic solids with graded coatings", *Mechanics of Materials*, Vol. 38 (7), pp. 633-647.
- **M.A. Guler** and F. Erdogan, (2004), "Contact mechanics of graded coatings", *International Journal of Solids and Structures*, Vol. 41 (14), pp. 3865-3889.

INTERNATIONAL CONFERENCE PUBLICATIONS

- V. Rezzazadeh, A. Tastan, U. Yolum, **M.A. Guler**, (2015), "Peridynamic Analyses of Structures by using Finite Element Method", 8th Ankara International Aerospace Conference 2015, Ankara, Turkey.
- U. Yolum, A. Tastan, **M.A. Guler**, (2015), "Peridynamic Modelling of Fracture in Ductile Materials", Tbilisi International Conference on Computer Sciences and Applied Mathematics, Tbilisi, Georgia.
- U. Yolum, A. Tastan, T. Kahraman, **M.A. Guler**, E. Oterkus, E. Madenci, (2015), "Modeling of Mode I Delamination Growth in Composites by using Peridynamics Implemented in Abaqus", International Conference on Advances in Composite Materials and Structures, Istanbul, Turkey.
- O. Mulkoglu, **M.A. Guler**, H. Demirbag, (2015), "[Drop Test Simulation and Verification of a Dishwasher Mechanical Structure](#)", 10th European LSDYNA Conference 2015, Würzburg, Germany.
- T. Kahraman, U. Yolum, **M.A. Guler**, (2015), "[Implementation of Peridynamic Theory to LS-DYNA for Prediction of Crack Propagation in a Composite Lamina](#)", 10th European LSDYNA Conference 2015, Würzburg, Germany.
- O.M. Bircan, **M.A. Guler**, Y. Karpat, (2013), "An Analytical Approach to Design Accurate Profile of the Form-Turning Inserts", 7th International Advanced Technologies Symposium, Istanbul, Turkey.
- A.O. Ozcan, D. Bulgurlu, I. Vuruskan, N. Sezer-Uzol and **M.A. Guler**, (2011), "Design and analysis of a vertical axis wind turbine: Part I: Aerodynamic design and CFD analysis", 6th Ankara International Aerospace Conference, Ankara, Turkey.
- I. Vuruskan, D. Bulgurlu, A.O. Ozcan, **M.A. Guler** and N. Sezer-Uzol, (2011), "Design and analysis of a vertical axis wind turbine: Part II: Structural design and analysis", 6th Ankara International Aerospace Conference, Ankara, Turkey.
- D. Bekar, E. Acar, F. Ozer and **M.A. Guler**, (2011), "Robust springback optimisation of DP600 steels for U-channel forming", World Congress on Engineering 2011, WCE 2011, London, U.K.

- **M.A. Guler**, Y.F. Gulver and S. Dag, (2010), “Mechanical modeling of thin films bonded to functionally graded materials”, Proceedings of the 10th International Symposium on Multiscale, Multifunctional and Functionally Graded Materials, Sendai, Japan, 2008, Materials Science Forum, 631-632, pp. 333-338.
- **M.A. Guler**, L. Sözen, R. M. Görgülüarslan, E. M. Kaplan, (2010), “Prediction of Springback in CNC Tube Bending Process Based on Forming Parameters, 11th International LS_DYNA Users Conference, Detroit, Michigan.
- M. E. Cerit, **M.A. Guler**, B. Bayram, U. Yolum, (2010), “Improvement of the Energy Absorption Capacity of an Intercity Coach for Frontal Crash Accidents, 11th International LS_DYNA Users Conference, Detroit, Michigan.
- **M.A. Guler**, A.O. Atahan and B. Bayram, (2009), “Effectiveness of using seat belt on the rollover crashworthiness of an intercity coach”, 21th International Technical Conference on the Enhanced Safety of Vehicles, ESV, Stuttgart, Germany.
- **M.A. Guler**, Y.F. Gülver and S. Dag, (2008), “Mechanical modeling of thin films bonded to functionally graded materials”, in Proceedings of the 5th International Powder Metallurgy Conference, Ankara, Turkey, pp. 369-378 (in Turkish).
- **M.A. Guler**, F. Erdogan and S. Dag, (2008), “Contact problems with friction in graded materials”, in Proceedings of the Multiscale and Functionally Graded Materials Conference 2006, Honolulu, Hawaii, USA. Editors G. H. Paulino, M.-J. Pindera, R. H. Dodds, Jr., F. A. Rochinha, E. V. Dave, and L. Chen, American Institute of Physics, Vol. 978, pp. 784 - 789.
- **M.A. Guler**, F. Erdogan and S. Dag, (2008), “Modeling of thin films and cover plates bonded to graded substrates”, in Proceedings of the Multiscale and Functionally Graded Materials Conference 2006, Honolulu, Hawaii, USA. Editors G. H. Paulino, M.-J. Pindera, R. H. Dodds, Jr., F. A. Rochinha, E. V. Dave, and L. Chen, American Institute of Physics, Vol. 978, pp. 790 - 795.
- K. Elitok, **M.A. Güler**, B. Bayram, B. and U. Stelzmann, (2006), “An Investigation on the Rollover Crashworthiness of an Intercity Coach, Influence of Seat Structure and Passenger Weight”, in 9th International LS-Dyna Users Conference, Detroit, USA, pp. 11-17 – 11-34.
- **M.A. Guler** and F. Erdogan, (1998), “Contact Mechanics of FGM coatings”, in the 8th Japan-US Conference on Composite Materials, Baltimore, Maryland, USA, September, 1998. The 8th Japan-US Conference on Composite Materials, Baltimore, Maryland, USA.

NATIONAL CONFERENCE PUBLICATIONS

- A.T. Camcı, **M.A. Guler**, (2014), “Hafif Elektrikli Araçlarda Sürekli Değişken Oranlı Şanziman Kullanılarak Menzil Ve Performansın Artırılması”, 7th Automotive Technologies Congress, Bursa, Turkey.
- O. Üşenmez, M. Tekir, Y.Z. Akman, N. Sezer-Uzol, **M.A. Güler**, (2012), “Sessiz Helikopter Tasarım Ve Analizi İçin İzlenen Adımlar Ve Yöntemler, SAVTEK 2012, 6. Savunma Teknolojileri Kongresi, Ankara, Turkey.
- **M.A. Guler**, L. Sözen, R.M. Görgülüarslan, E.M. Kaplan, (2010), “Investigation On Deformation Characteristics Of Rotary Draw Tube Bending And Roll Bending Operations”, 5th Automotive Technologies Congress, Bursa, Turkey.
- **M.A. Guler**, N. Babacan, U. Yolum, Y. Demiryürek, (2010), “CONWEP Yöntemi ile Mayın Patlama Benzetimi, 5. Savunma Teknolojileri Kongresi”, Ankara, Turkey.
- M. E. Cerit, **M.A. Guler**, B. Bayram, B. Gerçeker, E. Karakaya, (2009), “Farklı Kesitli Ezilme Kutularının Enerji Yutma Kapasitelerinin Karşılaştırılması”, 16. Ulusal Mekanik Kongresi, Kayseri, Turkey.
- **M.A. Guler**, M. Koç, U. Stelzmann, (2008), “Springback Evaluation for Flange Design in Stamping of Advanced High Strength Steels”, 4th Automotive Technologies Congress, Bursa, Turkey.
- K. Elitok, **M.A. Guler**, F.H. Avcı and U. Stelzmann, (2005), “Regulatory Bus Roll-Over Crash Analysis Using LS-DYNA”, Conference for Computer-Aided Engineering and System Modeling, İstanbul, Turkey.

CONFERENCE PRESENTATIONS

- D.J. Bang, **M.A. Guler**, E. Madenci, (2014), “Ordinary state-based peridynamic modeling of hyperelastic materials”, ASME 2014 International Mechanical Engineering Congress & Exposition, Montreal, Canada.
- S. Adibnazari, **M.A. Guler**, Y. Alinia, (2011), “Rolling Contact Mechanics of FGM Coatings”, ASME 2011 International Mechanical Engineering Congress & Exposition, Denver, Colorado, USA.

- Y.F. Gülver, **M.A. Guler**, E. Nart, (2011), “Mechanics of Thin Films Bonded To Graded Coatings”, ASME 2011 International Mechanical Engineering Congress & Exposition, Denver, Colorado, USA.
- **M.A. Guler**, F. Ozer, M. Yenice and M. Kaya, (2010), “Springback Prediction of DP600 Steels for Varius Material Models, The 13th International Conference on Metal Forming, Toyahashi, Japan.
- T. Apatay, S. Dag, **M.A. Guler** and M. Gulgec, (2010), “Subsurface stresses in an FGM coating loaded by a sliding flat punch”, Fourth European Conference on Computational Mechanics, Minisymposium on Fracture and Contact Mechanics for Interface Problems, Paris, France.
- **M.A. Guler**, (2008), "Mechanical Failure of Thin Films Bonded to Graded Substrates", The Mechanics Conference to Celebrate the 100th Anniversary of the Department of Engineering Science and Mechanics, Professor Liviu Librescu Memorial Sessions, Virginia Tech, Blacksburg, Virginia, USA.
- S. Dag, **M.A. Guler** and B. Yildirim, (2007), "Contact mechanics of laterally graded materials", 9th US National Congress on Computational Mechanics, San Fransisco, California, USA.
- **M.A. Guler**, (2003), "The Effect of Material Grading on the Contact Mechanics of FGM Coatings", ASME International Mechanical Engineering Congress and RD&D Expo, Washington DC, USA.
- F. Erdogan, S. Dag and **M.A. Guler**, (2000), "Contact and crack problems in functionally graded materials", 20th International Congress of Theoretical and Applied Mechanics, August 2000, Chicago, Illinois, USA.

GRANTED RESEARCH PROJECTS

- **M.A. Guler** and D. Coker (2016 – 2018), “Numerical and experimental investigation of fracture propagation in composites with impact damage”, funded by The Scientific and Technical Research Council of Turkey (TÜBİTAK). Budget \$ 100,000.
- **M.A. Guler** (2015 – 2016), “Examination of impact energy absorbing capacity of empty and aluminum based foam-filled crash boxes”, funded by The Scientific and Technical Research Council of Turkey (TÜBİTAK). Budget \$ 10,000.
- **M.A. Guler** (2013 – 2015), “Optimization of the structural parts and packaging of a dishwasher using Finite Element Method”, funded by The Scientific and Technical Research Council of Turkey (TÜBİTAK). Budget \$ 135,000.
- **M.A. Guler** and B. Aksoylu, (2013 – 2015), “Development of a method to predict strength and failure of layered composites using peridynamic theory”, Budget \$ 125,000.
- **M.A. Guler** (2013), “Dynamic Analysis of a VSP Support Bracket as a senior design project”, funded by OYAK RENAULT, Budget \$ 1,500.
- **M.A. Guler** (2013), “Design of a Shock Absorbing Component for a Front Bumper of an Automobile as a senior design project”, funded by OYAK RENAULT, Budget \$ 1,500.
- **M.A. Guler** (2012), “Frontal crash analysis for the design of an automobile cockpit carrier as a senior design project”, funded by OYAK RENAULT, Budget \$ 1,500.
- **M.A. Guler**, R.M. Görgülüarslan and Fırat Özer, (2011), “Side crash simulation analysis for monolithic production of reinforced parts as a senior design project”, funded by OYAK RENAULT, Budget \$ 3,000.
- **M.A. Guler** and E. Acar, (2009 – 2011), “Accurate prediction and robust optimization of springback in dual phase steels during sheet metal forming operations”, funded by The Scientific and Technical Research Council of Turkey (TÜBİTAK). Budget \$ 65,000.
- **M.A. Guler**, (2008 – 2010), “Development of passive safety system for absorbing crash energy during frontal crashes involving intercity busses”, funded by Ministry of Industry and Trade of Turkey under the scope of SAN-TEZ project. Budget \$ 225,000.
- **M.A. Guler** and S. Dag, (2007 – 2009), “Computational and Analytical methods for contact mechanics analysis of functionally graded materials”, funded by The Scientific and Technical Research Council of Turkey (TÜBİTAK). Budget \$ 70,000.

POST DOC. RESEARCHER

- A. Kucuksucu (2012-2014), “Contact mechanics of orthotropically graded materials”

VISITING RESEARCH SCHOLAR

- Y. Alinia (2011-2012), “Rolling contact mechanics of graded materials”

Ph.D. STUDENTS

- U. Yolum (ongoing)
- G. Çeken (ongoing)

M.S. STUDENTS

- T Kahraman (ongoing)
- A.E. Örün (ongoing)
- B. Ölçek (ongoing)
- A Tastan (2016), “Development of a method to predict strength and failure of isotropic and composite structures under tension and bending loadings using bond-based peridynamic theory ”
- O Mülkoğlu (2016), “Optimization of the mechanical structure of a dishwasher and its packaging module using Finite Element Method ”
- O.M. Bircan (2014), “An analytical approach to design form-turning insert profiles: Investigation of rake face design on tool life” with Dr. Y. Karpaz
- A.T. Camcı (2013), “Improvements on the range and the performance of a light electric vehicle by making use of a continuously variable transmission”
- F. Özer, (2011), “Springback prediction in Advanced High Strength Steels after forming operations” with Dr. I.B. Ozsoy
- D. Bekar, (2011), “Robust optimization of springback predictions in dual phase steels during sheet metal forming operations” co-supervised with Dr. E. Acar
- L. Sözen, (2011), “Springback prediction in rotary tube bending operations”
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