Durul Ulutan, PhD
Assistant Professor
Department of Manufacturing Systems Engineering & Management
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PROFESSIONAL EXPERIENCE

Kadir Has University — ***Istanbul, Turkey***
Assistant Professor, Industrial Engineering — ***April 2019 – present***

California State University – Northridge — ***Northridge, CA***
Assistant Professor, Manufacturing Systems Engineering — ***2017 – 2019***

Bucknell University — ***Lewisburg, PA***
Assistant Professor, Mechanical Engineering — ***2015 – 2017***

Clemson University – ICAR — ***Greenville, SC***
Post-Doctoral Research Fellow, Automotive Engineering — ***2013 – 2015***

Ford Motor Company — ***Istanbul, Turkey***
Component and Calibration Engineer & Team Leader — ***2007 – 2008***

RESEARCH INTERESTS

- Advanced Manufacturing
- Assisted & Augmented Manufacturing
- Manufacturing Automation, Mechatronics & Robotics
- Additive Manufacturing
- Manufacturing Processes & Machining
- Digital Manufacturing and Design
- Manufacturing Controls
- Sustainable Manufacturing
- Manufacturing Optimization
- Computer-Aided Design & Manufacturing

EDUCATION

Ph.D.	Industrial & Systems Engineering, **Rutgers University**, *Piscataway*, *NJ*	***2013***
M.S.	Mechanical Engineering, **Koç University**, *Istanbul, Turkey*	***2007***
B.S.	Mechanical Engineering, **Koç University**, *Istanbul, Turkey*	***2005***

HONORS AND AWARDS

- **44th NAMRC Young Reviewers Panel** ***2016***
- **43rd NAMRC Young Reviewers Panel** ***2015***
- **Fellowship** for Summer Institute on Nanomechanics and Nanomaterials ***2013***

and Micro/Nanomanufacturing - A Short Course on Additive Manufacturing – *NSF*

- **Student Registration Support Award** for MSEC 2012 – *NSF* ***2012***
- **Conference Travel Award** for MSEC 2012 – *Rutgers University Graduate School* ***2012***
- **Outstanding Graduate Student Award** - *Rutgers University Graduate School* ***2012***
- **Hottest Article** (#1) in *International Journal of Machine Tools & Manufacture* ***2011***
- **Research Fellowship** – *Rutgers University*, *Industrial & Systems Eng. Dept.* ***2009***
- **Dean's Honor Roll** – *Koç University* (M.S.) ***2007***
- **Dean's Honor Roll** – *Koç University* (B.S.) ***2005***
- **Merit Scholarship** for qualifying in top 1% nationwide – *Koç University* ***2001***

CURRENT RESEARCH PROJECTS

- Development of robot programming for roughing operations on lip skins
- Using ultrasonic assistance in 5-axis vertical machining center to improve machining performances
- Development of laser polishing as an auxiliary process to improve quality and efficiency in 3D printed parts
- Laser polishing of 3D printed metal surfaces to improve surface quality
- Laser polishing of machined surfaces to reduce machining effected zone thickness
- Using a sensor fusion approach in understanding the machining process
- Comparison of post-processing methods in 3D-printed metal parts in terms of surface quality and mechanical properties of end products
- Investigation of the effect of surface quality on mechanical properties of 3D-printed metal parts

PREVIOUS RESEARCH PROJECTS

- Development of an efficient automated end-effector to depowder 3D printed metal parts
- Process control and optimization of machining difficult-to-machine steels, nickel-based superalloys and titanium alloys using surface integrity measures and tool wear (sponsored by GE Power & Water)
- Sensor integration and fusion in predicting spindle failure for CNC machines under heavy loading (sponsored by GE Power & Water)
- Residual Stress-based optimization of turning, milling, and grinding processes using X-ray Diffraction, Eddy Current, and Fine-Incremental Hole Drilling methods (sponsored by GE Power & Water)
- Electrically Assisted Forming of lightweight metals (sponsored by Johnson Controls Inc.)
- Flow Drill Screwdriving: One-sided single-operation robust joining of dissimilar materials (sponsored by Honda)
- Electrically-Assisted Machining of stainless steels, titanium alloys and nickel-based superalloys
- Stochastic Modeling of tool wear in machining using Bayesian parameter estimation approach (sponsored by NSF)

- Predictive modeling and multi objective optimization of machining (NSF-CMMI 1130780)
- Physics-based simulation modeling of machining (NSF-CMMI 0758220)
- Dynamical systems approach to fatigue damage modeling
- Investigation of fuel injection system components for gas and diesel engines (led by Ford, supported by Jaguar and Volvo)
- Optimizing the total production, assembly, and distribution cost in truck-manufacturing plants (led by Ford)
- Analytical predictive modeling and optimization of machining residual stresses
- Analytical modeling of thermomechanical dynamics of ball end milling and hard turning
- Modeling of machine dynamics in turning and end milling processes
- Three-dimensional prediction and optimization of machining processes
- Experimental analysis of force, temperature, residual stress & surface roughness in turning and end milling processes
- Implementation of heat flux sensors in improving efficiency of refrigerators and ovens (led by ARCELIK)

COURSES TAUGHT

California State University – Northridge ***2017 – 2019***

- MSE 410 Production Systems Modeling & Lab
- MSE 412 Manufacturing Processes & Lab
- MSE 415 Product Design
- MSE 488A Manufacturing Senior Design I
- MSE 488BCS Manufacturing Senior Design II
- MSE 511 Robotics: Fundamentals & Applications
- MSE 603 Computer-Integrated Manufacturing
- MSE 611 Robotics & Automation

Bucknell University ***2015 – 2017***

- MECH 401 Senior Design I
- MECH 402 Senior Design II
- MECH 392 Mechanical Design
- MECH 392L Mechanical Design Laboratory
- MECH 355 Manufacturing Processes
- MECH 355L Manufacturing Processes Laboratory

Clemson University ***2013 – 2015***

- Automotive Design and Project Management (Instructional Consultant)
- Vehicle Structural Design and Analysis (Co-Instructor)

Rutgers University ***2010 – 2011***

- Manufacturing Process Laboratory
- Work Design and Ergonomics Laboratory
- Automated Manufacturing Systems (Teaching Assistant)

University of Rhode Island ***2008 – 2009***

- Engineering Analysis (Teaching Assistant)
- Graphics for Mechanical Engineers (Teaching Assistant)

Koç University ***2002 – 2007***

- Heat Transfer (Teaching Assistant)
- Introduction to Mechanical Engineering Design (Teaching Assistant)
- Statics and Mechanics of Materials (Academic Assistant)
- Dynamics (Academic Assistant)
- Introduction to Computer Programming with C (Teaching Assistant)

PUBLICATIONS (Supervised students underlined, 750+ citations, h-index: 10 on Google Scholar)

Book Chapters

[B01] **D. Ulutan** & T. Özel. "Hard Machining," Chapter 13, in *Modern Manufacturing Processes*, (Ed.) M. Koç, T. Özel, John Wiley & Sons, 2019, ISBN-10:1118071921 ISBN-13: 978-1118071922.

Peer-Reviewed Journal Publications

[J20] F. Akhavan Niaki, **D. Ulutan**, L. Mears. "Parameter Inference Under Uncertainty in End-Milling γ'-Strengthened Difficult-to-Machine Alloy." *Journal of Manufacturing Science and Engineering 138.6* (2016).

[J19] F. Akhavan Niaki, L. Feng, **D. Ulutan**, L. Mears. "A Wavelet Based Data-Driven Modeling for Tool Wear Assessment of Difficult to Machine Materials." *International Journal of Mechatronics and Manufacturing Systems, Special Issue on Intelligent Manufacturing Systems 9.2* (2016): 97-121.

[J18] F. Akhavan-Niaki, **D. Ulutan**, L. Mears. "Stochastic Tool Wear Assessment in Milling Difficult to Machine Alloys." *International Journal of Mechatronics and Manufacturing Systems* 8.3/4 (2015): 134-159.

[J17] F. Akhavan Niaki, **D. Ulutan**, L Mears. "In-Process Tool Flank Wear Estimation in Machining Gamma-Prime Strengthened Alloys Using Kalman Filter." *Procedia Manufacturing 1* (2015): 696-707.

[J16] **D. Ulutan**, A. Pleta, A. Henderson, L. Mears. "Comparison and Cost Optimization of Solid Tool Life in End Milling Nickel-Based Superalloy." *Procedia Manufacturing 1* (2015): 522-533.

[J15] A. Pleta, **D. Ulutan**, L. Mears. "An Investigation of Alternative Path Planning Strategies for Machining of Nickel-Based Superalloys." *Procedia Manufacturing 1* (2015): 556-566.

[J14] J. Skovron, R. Prasad, **D. Ulutan**, L. Mears, D. Detwiler, D. Paolini, B. Baeumler, L. Claus. "Effect of Thermal Assistance on the Joint Quality of Al6063-T5A During Flow Drill Screwdriving." *Journal of Manufacturing Science and Engineering, Forming and Joining Special Issue 137.5* (2015).

[J13] J. Skovron, L. Mears, **D. Ulutan**, D. Detwiler, D. Paolini, B. Baeumler, L. Claus. "Characterization of Flow Drill Screwdriving Process Parameters on Joint Quality." *SAE International Journal of Materials and Manufacturing 8.1* (2015).

[J12] **D. Ulutan**, Y.M. Arisoy, T. Özel, L. Mears. "Empirical Modeling of Residual Stress Profile in Machining Nickel-Based Superalloys Using the Sinusoidal Decay Function." *Procedia CIRP 13* (2014): 365-370.

[J11] A. Kortabarria, A. Madariaga, E. Fernandez, J.A. Esnaola, P.J. Arrazola, C. Cappellini, **D. Ulutan**, T. Özel. "On the Machining Induced Residual Stresses in IN718 Nickel-Based Alloy: Experiments and Predictions with Finite Element Simulation." *Simulation Modelling Practice and Theory 41* (2014): 87-103.

[J10] T. Özel, **D. Ulutan**. "Effect of Machining Parameters and Tool Geometry on Serrated Chip Formation, Specific Forces and Energies in Orthogonal Cutting of Nickel-Based Super Alloy Inconel 100." *Journal of Engineering Manufacture 228.7* (2014): 673-686.

[J09] **D. Ulutan**, T. Özel. "Determination of Tool Friction in Presence of Flank Wear and Stress Distribution Based Validation using Finite Element Simulations in Machining of Titanium and Nickel Based Alloys." *Journal of Materials Processing Technology 213.12* (2013): 2217-2237.

[J08] **D. Ulutan**, T. Özel. "Multi-objective Optimization of Experimental and Simulated Residual Stresses in Turning of Nickel-alloy IN100." *Materials and Manufacturing Processes 28.7* (2013): 835-841.

[J07] T. Özel, **D. Ulutan**. "Prediction of Machining Induced Residual Stresses in Turning of Titanium and Nickel Based Alloys with Experiments and Finite Element Simulations." *CIRP Annals - Manufacturing Technology 61.2* (2012): 547-550.

[J06] **D. Ulutan**, T. Özel. "Machining Induced Surface Integrity in Titanium and Nickel Alloys: A Review." *International Journal of Machine Tools and Manufacture 51.3* (2011): 250-280.

[J05] **D. Ulutan**, M. Sima, T. Özel. **"**Prediction of Machining Induced Surface Integrity using Elastic-Viscoplastic Simulations and Temperature-Dependent Flow Softening Material Models in Titanium and Nickel-Based Alloys." *Advanced Materials Research 223* (2011): 401-410.

[J04] T. Özel, T. Thepsonthi, **D. Ulutan**, B. Kaftanoğlu. "Experiments and Finite Element Simulations on Micro-Milling of Ti-6Al-4V Alloy with Uncoated and cBN Coated Micro-Tools." *CIRP Annals – Manuf. Tech. 60* (2011): 85-88.

[J03] **D. Ulutan**, I. Lazoğlu, C. Dinç. "Three-Dimensional Temperature Prediction in Machining Processes Using Finite Difference Method." *Journal of Materials Processing Technology 209* (2009): 1111-1121.

[J02] I. Lazoğlu, **D. Ulutan**, B. E. Alaca, S. Engin. "An Enhanced Analytical Model for Residual Stress Prediction in Machining." *CIRP Annals – Manuf. Tech. 57.1* (2008): 81-84.

[J01] **D. Ulutan**, B. Erdem Alaca, I. Lazoğlu. "Analytical Modeling of Residual Stresses in Machining." *Journal of Materials Processing Technology 183* (2007): 77-87.

Invited Talks

[T03] **D. Ulutan**. "Precision 3D Printing – An Integrated Approach Using Stochastic Modeling, In-Situ Feedback Control, and Assisted / Hybrid Manufacturing." *San José State University, Department of Aviation and Technology*, April 4, 2017.

[T02] **D. Ulutan**. "Precision Biomanufacturing & A Look toward 4D-Printing." *Drexel University, Department of Mechanical Engineering and Mechanics*, February 28, 2017.

[T01] **D. Ulutan**. "Taking Manufacturing to the Next Step." *Rutgers University, Department of Industrial & Systems Engineering*, February 23, 2016.

Peer-Reviewed Conference Proceedings, Presentations & Posters

[C35] **D. Ulutan**. "Waste of time or learning experience? A quantitative and qualitative analysis on the effective use of office hours." *ASEE 126th Annual Conference & Exposition*, June 16-19, 2019, Tampa, Florida. (Accepted).

[C34] A. Qattawi, **D. Ulutan**, A. Alafaghani. "Prediction of Mechanical Properties of Direct Metal Laser Sintered 15-5PH Steel Parts Using Bayesian Inference - A Preliminary Study." *ASME 2019 International Manufacturing Science and Engineering Conference (MSEC 2019)*, June 10-14, 2019, Erie, Pennsylvania. (Accepted).

[C33] M. Laminen, **D. Ulutan**. "Increasing Tool Life in Metals via True Variable Depth Milling." **Poster** to be presented at *ASME 2019 International Manufacturing Science and Engineering Conference (MSEC 2019)*, June 10-14, 2019, Erie, Pennsylvania. (Accepted).

[C32] C. Nguyen, M. Laminen, **D. Ulutan**. "A Review of Assisted / Augmented Manufacturing Processes." *ASME 2019 International Manufacturing Science and Engineering Conference (MSEC 2019)*, June 10-14, 2019, Erie, Pennsylvania. (Accepted).

[C31] **D. Ulutan**. "Treating students like adults - can they manage their own grading scheme?" *2019 ASEE Pacific South West Section Annual Conference and Exposition (ASEE PSW 2019)*, April 4-6, 2019, Los Angeles, California.

[C30] M. Perez Dewey, **D. Ulutan**. "Development of laser polishing as an auxiliary post-process to improve surface quality in fused deposition modeling parts." *ASME 2017 International Manufacturing Science and Engineering Conference (MSEC 2017)*, June 4-8, 2017, Los Angeles, California.

[C29] F. Akhavan Niaki, **D. Ulutan**, L. Mears. "Wavelet Based Sensor Fusion for Tool Condition Monitoring of Hard to Machine Materials." *2015 IEEE International Conference on Multisensor Fusion and Integration for Intelligent Systems,* September 14-16, 2015, San Diego, California.

[C28] L. Feng, **D. Ulutan**, L. Mears. "Energy Consumption Modeling and Analysis in Automotive Manufacturing Final Assembly Process." *3rd Annual IEEE Conference on Technologies for Sustainability (SusTech)*, July 30-August 1, 2015, Ogden, Utah.

[C27] **D. Ulutan**, A. Pleta, A. Henderson, L. Mears. "Comparison and Cost Optimization of Solid Tool Life in End Milling Nickel-Based Superalloy." *43rd North American Manufacturing Research Conference (NAMRC),* June 8-12, 2015, Charlotte, North Carolina.

[C26] **D. Ulutan**, A. Pleta, L. Mears. "Electrically-Assisted Machining of Titanium Alloy Ti-6Al-4V and Nickel-Based Alloy IN-738: An Investigation." *ASME 2015 International Manufacturing Science and Engineering Conference (MSEC 2015)*, June 8-12, 2015, Charlotte, North Carolina.

[C25] V. Bardis, F. Akhavan Niaki, **D. Ulutan**, L. Mears. "Tool Wear Prediction through Vibration Data during End-Milling of Nickel-Based Superalloys." *ASME 2015 International Manufacturing Science and Engineering Conference (MSEC 2015)*, June 8-12, 2015, Charlotte, North Carolina.

[C24] F. Akhavan Niaki, **D. Ulutan**, L. Mears. "In-Process Tool Flank Wear Estimation in Machining Gamma-Prime Strengthened Alloys Using Kalman Filter." *43rd North American Manufacturing Research Conference (NAMRC),* June 8-12, 2015, Charlotte, North Carolina.

[C23] F. Akhavan Niaki, **D. Ulutan**, L. Mears. "Parameter Estimation using Markov Chain Monte Carlo Method in Mechanistic Modeling of Tool Wear during Milling." *ASME 2015 International Manufacturing Science and Engineering Conference (MSEC 2015)*, June 8-12, 2015, Charlotte, North Carolina.

[C22] J. Skovron, **D. Ulutan**, L. Mears, D. Detwiler, D. Paolini, B. Baemler, L. Claus. "Effect of Thermal Assistance on the Joining of Al6063 during Flow Drill Screwdriving." *ASME 2015 International Manufacturing Science and Engineering Conference (MSEC 2015)*, June 8-12, 2015, Charlotte, North Carolina.

[C21] A. Pleta, **D. Ulutan**, L. Mears. "An Investigation of Alternative Path Planning Strategies for Machining of Nickel-Based Superalloys." *43rd North American Manufacturing Research Conference (NAMRC),* June 8-12, 2015, Charlotte, North Carolina.

[C20] R. Prasad, J. Skovron, L. Mears, **D. Ulutan**, D. Detwiler, B. Baemler, L. Claus. "Effect of Torque Holding Time on Sheet Separation in Flow Drill Screwing." **Poster** presented at the *ASME 2015 International Manufacturing Science and Engineering Conference (MSEC 2015)*, June 8-12, 2015, Charlotte, North Carolina.

[C19] H. Date, A. Pleta, L. Mears, **D. Ulutan**. "Electrically Assisted Augmentation of the Forming Process." **Poster** presented at the *ASME 2015 International Manufacturing Science and Engineering Conference (MSEC 2015)*, June 8-12, 2015, Charlotte, North Carolina.

[C18] F. Akhavan Niaki, **D. Ulutan**, L. Mears. "Parameter Estimation in Mechanistic Tool Wear Model: A Bayesian Approach." *2015 TMS Annual Meeting & Exhibition*, March 15-19, 2015, Orlando, Florida.

[C17] J. Skovron, L. Mears, **D. Ulutan**, D. Detwiler, B. Baemler, L. Claus. "Characterization of Flow Drill Screwing Process Parameters on Joint Quality." *SAE 2014 Aerospace Manufacturing and Automated Fastening Conference & Exhibition,* September 23-25, 2014, Salt Lake City, Utah.

[C16] **D. Ulutan**, A. Pleta, L. Mears. "Multi-Objective Particle Swarm Optimization of Machining Parameters for End Milling Titanium Alloy Ti-6Al-4V." *ASME 2014 International Manufacturing Science and Engineering Conference (MSEC 2014)*, June 9-13, 2014, Detroit, Michigan.

[C15] A. Pleta, **D. Ulutan**, L. Mears. "Investigation of Trochoidal Milling in Nickel-Based Superalloy Inconel 738 and Comparison with End Milling." *ASME 2014 International Manufacturing Science and Engineering Conference (MSEC 2014)*, June 9-13, 2014, Detroit, Michigan.

[C14] C. Stanley, **D. Ulutan**, L. Mears. "Prediction of Tool Wear Based on Cutting Forces When End Milling Titanium Alloy Ti-6Al-4V." *ASME 2014 International Manufacturing Science and Engineering Conference (MSEC 2014)*, June 9-13, 2014, Detroit, Michigan.

[C13] J. Skovron, L. Mears, **D. Ulutan**, D. Detwiler, B. Baemler, L. Claus. "Characterization of Flow Drill Screwing Process Parameters on Joint Quality." **Poster** presented at the *ASME 2014 International Manufacturing Science and Engineering Conference (MSEC 2014)*, June 9-13, 2014, Detroit, Michigan.

[C12] **D. Ulutan**, Y.M. Arisoy, T. Özel, L. Mears. "Empirical Modeling of Residual Stress Profile in Machining Nickel-Based Superalloys Using the Sinusoidal Decay Function." *2nd CIRP Conference on Surface Integrity (CIRP-CSI)*, May 28-30, 2014, Nottingham, UK.

[C11] **D. Ulutan**, H. Potluri, A. Pleta, L. Mears. "Insert Comparison in High-Speed Cutting of Titanium Alloy Ti-6Al-4V and Nickel-Based Alloy IN-738." *3rd International Conference on Virtual Machining Process Technology (VMPT)*, May 20-23, 2014, Calgary, Alberta, Canada.

[C10] T. Özel, Y.M. Arisoy, **D. Ulutan**. "Prediction of Machining Induced Microhardness using Finite Element Simulations and Machine Learning in Titanium Alloys." *7th International Conference and Exhibition on Design and Production of Machines and Dies/Molds*, June 20-23, 2013, Antalya, Turkey.

[C09] **D. Ulutan**, T. Özel. "Determination of Constitutive Material Model Parameters in FE-Based Machining Simulations of Ti-6Al-4V and IN-100 Alloys: An Inverse Methodology." *41st North American Manufacturing Research Conference (NAMRC),* June 10-14, 2013, Madison, Wisconsin.

[C08] T. Özel, **D. Ulutan**. "Predictive Modeling and Optimization of Machining Induced Surface Integrity with Applications in Titanium and Nickel-Based Alloyed End Products." **Poster** presented at the *2012 NSF CMMI Engineering Research and Innovation Conference*, July 9-12, 2012, Boston, Massachusetts.

[C07] **D. Ulutan,** T. Özel. "A Methodology to Determine Friction in Orthogonal Cutting with Application to Machining Titanium and Nickel Based Alloys." *2012 ASME International Conference on Manufacturing Science and Engineering (MSEC 2012),* June 4-8, 2012, South Bend, Indiana.

[C06] T. Özel, T. Thepsonthi, **D. Ulutan**, B. Kaftanoğlu, "Micro-Milling of Ti-6Al-4V Alloy with Uncoated and cBN Coated Micro-Tools." *6th International Conference and Exhibition on Design and Production of Machines and Dies/Molds*, June 23-26, 2011, Ankara, Turkey.

[C05] M. Sima, **D. Ulutan**, T. Özel. "Effects of Tool Micro-Geometry and Coatings in Turning of Ti-6Al-4V Titanium Alloy." *39th North American Manufacturing Research Conference (NAMRC),* June 13-17, 2011, Corvallis, Oregon.

[C04] **D. Ulutan**, M. Sima, T. Özel. "Prediction of Machining Induced Surface Integrity using Elastic-Viscoplastic Simulations and Temperature-Dependent Flow Softening Material Models in Titanium and Nickel-based alloys." *13th CIRP International Workshop on Modeling of Machining Operations (MMO)*, May 12-13, 2011, Sintra, Portugal.

[C03] T. Özel, M. Sima, **D. Ulutan**, A.K. Srivastava. "Collaborative Research: Improving Machinability of Titanium Alloys using Physics-Based Simulation Modeling." **Poster** presented at the *2011 NSF CMMI Engineering Research and Innovation Conference*, January 4-7, 2011, Atlanta, Georgia.

[C02] I. Lazoğlu, **D. Ulutan**, B.E. Alaca, S. Engin. "An Enhanced Analytical Model for Residual Stress Prediction in Machining." *58th CIRP General Assembly*, August 2008, Manchester, England.

[C01] I. Lazoğlu, **D. Ulutan**, C. Dinç, "3D Temperature Fields in Machining." *3rd CIRP International HPC Conference*, June 2008, Dublin, Ireland.

Manuscripts in Progress

- **D. Ulutan**. "WIP: A Methodology to Complete the Students' Learning Sequence: Teaching" (in progress).
- M. Kuttolamadom, F. Akhavan-Niaki, Y. Huang, T. Kurfess, S. Liang, L. Mears, T. Özel, S. Schmid, **D. Ulutan**, J. Wang. "Review of the State-of-the-Art on Machining Tool Wear: Mechanisms, Metrology, and Modeling" (under review).
- C. Nguyen, **D. Ulutan**. "Ultrasonically-Assisted Machining of Difficult-to-Machine Metals" (in progress).
- M. Laminen, **D. Ulutan**. "True Variable-Depth Milling of Metals Using a 5-axis Vertical Machining Center" (in progress).
- A. Qattawi, **D. Ulutan**, A. Ala'aldin. "A Stochastic Approach to Predictive Modeling of Mechanical Properties of Direct Metal Laser Sintered Steel and Nickel-Based Alloys Based on Fabrication Temperature and Direction" (in progress).
- F. Akhavan-Niaki, **D. Ulutan**, J. Outeiro, J. Karandikar. "Tool Condition Monitoring in Machining of Nickel- and Titanium-based Alloys – A Critical Review" (in progress).
- M. Laminen, C. Nguyen, **D. Ulutan**. "Assisted, Augmented & Hybrid Manufacturing Processes – A Critical Review of Materials, Modeling Efforts, Processes, and Industrial Applications" (in progress).
- F. Akhavan Niaki, **D. Ulutan**. "A Review of Tool Failure Prediction Methods in Machining Processes" (in progress).

- **D. Ulutan**, A. Pleta, J. Tarbutton. "Methods of Machining Optimization: A Review" (in progress).
- A. Pleta, **D. Ulutan**, L. Mears. "Empirical Modeling of Electrically-Assisted Machining in Steel, Titanium, and Nickel Materials" (in progress).

GRANTS

- **D. Ulutan** (PI). 2018. "Ultrasonically-Assisted Variable-Depth Milling of Metals." *CSUN College of Engineering and Computer Science Research Fellows Program* (not funded).
- B. Li, S. Gandhi, L. Liu, X. Hang & **D. Ulutan** (Co-PI, 20% share). 2018. "Smart Manufacturing (SM) Workforce Development Model Program." *Clean Energy Smart Manufacturing Innovation Institute* (under review).
- **D. Ulutan** (PI). 2018. "Automation of Robot Programming for Roughing of Lip Skins." *Klune Industries* (under review).
- **D. Ulutan** (PI). 2018. "Ultrasonically-Assisted Machining of Difficult-to-Machine Alloys." *CSUN Probationary Faculty Support Program* (funded – reassigned time).
- **D. Ulutan** (PI). 2018. "Ultrasonically-Assisted Machining of Difficult-to-Machine Alloys." *CSUN Research, Scholarship, and Creative Activity (RSCA) Award* (not funded).
- **D. Ulutan** (PI). 2017. "Learning through MATLAB: Increasing the Use of Programming in Engineering Curriculum." *CSUN Campus Quality Fee (CQF) Award* (not funded).
- **D. Ulutan** (PI). 2017. "Robot Programming for Roughing of Lip Skins." *Klune Industries* (funded - $8542).
- S. Cohen (PI), **D. Ulutan** (co-PI). 2016. "Depowdering Assistance Tool for 3D Printed Parts." *ExOne* (funded - $2500).

PROFESSIONAL SERVICE

Editorial Board

- *International Journal of Mechatronics and Manufacturing Systems,* 2015 – present

International Committee

- *International Conference and Exhibition on Design and Production of Machines and Dies/Molds,* 2016 – present

Conference Chairing

- *MSEC 2019*, Erie, PA, June 2019
  - ***Symposium Chair for "Advances in Assisted / Augmented Manufacturing"***
- *MSEC 2018*, College Station, TX, June 2018
  - ***Symposium Chair for "Advances in Assisted / Augmented Manufacturing"***
- *MSEC 2017*, Los Angeles, CA, June 2017
  - ***Symposium Chair for "Advances in Assisted / Augmented Manufacturing"***
- *MSEC 2016*, Blacksburg, VA, June 2016
  - ***Track Chair for Processing***
  - ***Symposium Chair for "Advances in Assisted / Augmented Manufacturing"***
- *MSEC 2015,* Charlotte, NC, June 2015
  - ***Symposium Chair for "Advances in Assisted / Augmented Manufacturing"***
- *MSEC 2014,* Detroit, MI, June 2014

- ***Technical Session Chair for "Machining"*** under the "*Advances in Modeling, Analysis, and Simulation of Manufacturing Processes"* Symposium
- ***Technical Session Chair for "Constitutive Properties & Modeling"*** under the "*Advances in Modeling, Analysis, and Simulation of Manufacturing Processes"* Symposium
- ***Technical Session Co-Chair for "Sensing, Control and Optimization"*** under the "*Monitoring, Sensing, and Control for Intelligent Machining and Inspection"* Symposium
- ***Technical Session Co-Chair for "Systems Modeling"*** under the "*Advances in Modeling, Analysis, and Simulation of Manufacturing Processes"* Symposium

Ad-hoc Reviewing

- International Journal of Modeling and Simulation
- International Journal of Mechatronics and Manufacturing Systems
- International Journal of Manufacturing Research
- Journal of Advanced Manufacturing Technology
- Journal of Manufacturing Science and Engineering
- Journal of Manufacturing Systems
- Journal of Engineering Manufacture
- Journal of Manufacturing Processes
- Applied Thermal Engineering
- Sensors
- Machining Science and Technology: An International Journal
- ASME International Conference on Manufacturing Science and Engineering (*MSEC*)
- SME North American Manufacturing Research Conference (*NAMRC*)
- CIRP Conference on High Speed Machining
- Transactions of the Canadian Society for Mechanical Engineering
- American Society for Engineering Education

Other Service

- CSUN College of Engineering and Computer Science Student Affairs Committee Member (2017-present)
- CSUN Department of Manufacturing Systems Engineering and Management Graduate Studies Committee Member (2017-present)
- CSUN Department of Manufacturing Systems Engineering and Management Facilities and Equipment Committee Member (2017-present)
- CSUN College of Engineering and Computer Science Research Fellows Committee Member (2017-present)
- Bucknell University College of Engineering International Education Committee Member (2016-2017)
- Bucknell University Mechanical Engineering Department Curriculum Committee Member (2015-2016)
- **Founding Member** of the Clemson University Post-Doc Association (*CUPDA*) (2014)

PROFESSIONAL AFFILIATIONS

- Society of Manufacturing Engineers (*SME*)

- American Society of Mechanical Engineers – Manufacturing Engineering Division (*ASME-MED*)
- Institute of Industrial Engineers (*IIE*)
- American Society for Engineering Education (*ASEE*)

PROFESSIONAL ACTIVITIES

- NSF Panelist on MME Machining and Metrology ***2017***
- National Forum on Additive Manufacturing Education & Training ***2016***
- SME Additive Manufacturing Training ***2013***
- BMW Lean Six-Sigma Black Belt Training ***2013***
- NSF Workshop on Frontiers of Additive Manufacturing Research and Education ***July 2013***
- NSF Summer Institute on Nanomechanics and Nanomaterials and Micro/Nanomanufacturing – Additive Manufacturing ***May 2013***

SUPERVISED STUDENTS (CSUN students underlined)

- **PhD Students**
  - Yujie Chen, PhD, Kavit Antani, PhD, Lujia Feng, PhD, Peng Cao, MS, Farbod Akhavan Niaki, PhD, Vasileios Bardis, MS, Jamie Skovron, PhD, Abram Pleta, PhD, Brandt Ruszkiewicz, PhD
- **MS Students**
  - Sharon Mashal, Valerie Pezzullo, MS, Hemanth Potluri, MS, Xin Yao, MS, Harshal Date, MS, Raphael Roche, MS
- **International Visiting Scholars**
  - Christoph Spindler, Michael Schmitt, Moritz Schmidt, Deniz Sürenkök, Philipp Klee
- **Undergraduate Students**
  - Osmar Estrada, Juan Espericueta, Marshall Tucker Laminen, Christy Nguyen, Jayshawna Jones, Mario Perez Dewey, Rebecca Skovron, Branden Hing, Can Sarlayan, Isa Bjorkeson, Mitch Stauffer, Kurtis Monahan, Nathan Ortiz, Alexandra Hrabchak, Rohan Prasad, Ryan Herrick, Corey Benson, Greg Wilson, Nathan DeVol, Cindy Stanley, Andrew Barrett, Elizabeth Jones, Ertugrul Deniz Akbay, Özen Özdemir

SKILLS

- **Leadership**
  - **Supervised** and **directed** MS and PhD students & international visiting scholars
  - **Supervised, mentored** and **advised** undergraduate research assistants
- **Software:** MS Office Suite, Apple iWork Suite, LabView, Unigraphics, Solidworks, DEFORM, FeatureCAM, MasterCAM, RoboGuide, CATIA, SIMPROCESS
- **Programming:** C, MATLAB, SAS, GAMS, Mathematica, Minitab, CNC Programming, Arduino & Microprocessor programming, Robot programming
- **Language:** English (Fluent), Turkish (Native), Spanish (Beginner), German (Beginner)