

IBRAHIM N. TANSEL

Mechanical Eng. Dept.
Florida International Univ.
Tel: (305) 348-3304

U.S. Citizen
Born in April 1956
Married-two children

CAREER RELATED EXPERIENCE

PROFESSOR (1990-present, tenured and promoted to Assoc. Prof. in 1994, promoted to Prof. 2007), Florida International University, University Park, Miami, FL.

DEPARTMENT CHAIR (2014-2017), Mechanical and Materials Eng., Florida International University, University Park, Miami, FL.

ASSISTANT PROFESSOR, (1986-1990) Tufts University, Medford MA.

VISITING SCHOLAR, (Summer 1989) MIT, Cambridge, MA

TEACHING, RESEARCH ASSISTANT, (1981-1986, various semesters) U.W-Madison,

HONORS

FELLOW, American Society of Mechanical Engineers, 2008.

OUTSTANDING YOUNG MANUFACTURING ENGINEER AWARD, Society of Manufacturing Engineering, 1992.

FACULTY RESEARCH AWARD, 2003; **TEACHING AWARD**, 1998; **FACULTY RESEARCH AWARD**, 1993, Florida International University.

FELLOWSHIP POSITIONS AFTER HIGHLY COMPETITIVE REVIEW PROCESSES MANAGED BY NRC AND ASEE, (12 times)

- NAVY, ASEE, 2000, 2001, 2010, 2011
- Eglin AFB, ASEE, 2008, 2012, 2013
- NASA, ASEE, 2004, 2005
- Wright Patterson AFB, NRC, 2001, 2002, 2003, 2006

KAUFFMAN PROFESSOR, Florida International University, 2007.

ASSOCIATE EDITOR, IASTED International Journal on Modelling and Simulation, 1999-present.

REVIEW COMMITTEE MEMBER, International Journal of Machine Tools and Manufacture, 1992-2017.

TEACHING INCENTIVE PROGRAM AWARD, Florida International University-Florida State, 1996

LISTED IN the 2nd edition of MARQUIS WHO'S WHO IN SCIENCE AND ENGINEERING

TWO ARTICLES IN TWO CONSECUTIVE YEARS IN MANUFACTURING ENGINEERING MAGAZINE ON TWO OF DR. TANSEL'S RESEARCH, July 1991, July 1992.

ELECTED SENIOR MEMBER, North American Manufacturing Research Institute of SME, 1992.
ELECTED SENIOR MEMBER, Society of Manufacturing Engineers
FULL SCHOLARSHIP FOR Ph.D STUDY, Turkish Government, 1980.

EDUCATION

Ph.D: UNIVERSITY OF WISCONSIN, MADISON - May 1986

Major: Mechanical Engineering, Minor: Electrical Engineering

M.S.: ISTANBUL TECHNICAL UNIVERSITY, TURKEY - March 1980

Major: Mechanical Engineering

B.S.: ISTANBUL TECHNICAL UNIVERSITY, TURKEY - May 1978

Major: Mechanical Engineering

TEACHING EXPERIENCE

In Florida International University:

Smart Machine Design and Development, Introduction to Mechatronics, Design Production and Marketing, Market Oriented Design and Production, Automatic Control, Identification of Mechanical Engineering Systems, Sensors and Machine Intelligence, Instrumentation, System Dynamics, Computer Aided Design, Advanced CAD/CAM, Kinematics and Mechanical Design, Statics, Dynamics

In Tufts University:

Computer Aided Manufacturing, Modern Quality Control, Computer Applications for Control and On-Line Monitoring, Control of Mechanical Engineering Systems, Material Science, Dynamics and Vibrations, Mechanical Engineering Laboratory, Modern Machine Practice, Image Processing Laboratory (partly), Project Laboratory,

PUBLICATIONS

Book:

Srikanth Korla and Ibrahim Tansel, Role of Piezoelectric Elements for Wear Monitoring in Cutting Tools: Characterization of Piezoelectric Actuators, Wear Classification by Surface Waves/Frequency Response Techniques, LAP LAMBERT Academic Publishing (February 2, 2012). ISBN-10: 3847315994, ISBN-13: 978-3847315995

Book Chapter:

1. I.N. Tansel, M. Demetgul and R.L. Sierakowski, “**Determining initial design parameters by using genetically optimized neural network systems (GONNS)**,” Composite Materials Technology: Neural Network Applications, Editor S.M. Sapuan, CRC Press, USA in 2009.
2. A. Yenilmez, I.N. Tansel, “**Manufacturing Automation, Polymer Composites**,” Encyclopedia of Composites, 2nd Edition, Editors: Luigi Nicolais, Assunta Borzacchiello, publisher John Wiley & Sons, Hoboken, New Jersey, 2012, ISBN (printed set): 978-0-470-12828-2

3. Mustafa Demetgul, Sezai Taskin, and Ibrahim Nur Tansel, “**Conditioning Monitoring and Fault Diagnosis for a Servo-Pneumatic System with Artificial Neural Network Algorithms**,” Artificial Neural Networks - Industrial and Control Engineering Applications, Edited by Kenji Suzuki, April 2011. (http://www.intechopen.com/source/pdfs/14747/InTech-Conditioning_monitoring_and_fault_diagnosis_for_a_servo_pneumatic_system_with_artificial_neural_network_algorithms.pdf), also published as hard copy ISBN 978-953-307-220-3. (Downloaded 8,944 times from the Intechopen site as of 5/29/2017)

Published or Accepted Journal Papers:

1. S. Tashakori, A. Baghalian, V. Y. Senyurek, Muhammet Unal, D. McDaniel, I. N. Tansel, “**Implementation of heterodyning effect for monitoring the health of adhesively bonded and fastened composite joints**,” Applied Ocean Research Vol. 72, pp. 51–59, 2018, <https://doi.org/10.1016/j.apor.2018.01.008>.
2. V. Y. Senyurek, A. Baghalian, S. Tashakori, D. McDaniel, I. N. Tansel, “**Localization of multiple defects using the compact phased array (CPA) method**,” Journal of Sound and Vibration, Vol. 413, 20 January 2018, pp 383-394. <https://doi.org/10.1016/j.jsv.2017.10.037>
3. A. Baghalian, S. Tashakori, V. Y. Senyurek, Muhammet Unal, D. McDaniel, H. Fekrmandi, I. N. Tansel, “**Non-Contact Quantification of Longitudinal and Circumferential Defects in Pipes using the Surface Response to Excitation (SuRE) Method**,” International Journal of Prognostics and Health Management, Vol.8, Issue 2, pp.1220, 2017.
4. B. Tansel, N. Dizge, Ibrahim N. Tansel, “**Analysis of high resolution flux data to characterize fouling profiles of membranes with different MWCO under different filtration modes**,” Separation and Purification Technology, Vol.173, 2017, pp.200-208, <http://dx.doi.org/10.1016/j.seppur.2016.09.032>
5. H. Fekrmandi, M. Unal, SR Neva, I.N. Tansel, D. McDaniel, “**A novel approach for classification of loads on plate structures using artificial neural networks**,” Measurement, Vol. 82, 2016, pp. 37-45. <http://dx.doi.org/10.1016/j.measurement.2015.12.027>
6. Shervin Tashakori, Amin Baghalian, Muhammet Unal, Hadi Fekrmandi, Volkan y Senyürek, Dwayne McDaniel, Ibrahim N. Tansel, “**Contact and non-contact approaches in load monitoring applications using surface response to excitation method**,” Measurement, Vol. 89, 2016, pp. 197-203. <http://dx.doi.org/10.1016/j.measurement.2016.04.013>
7. Hadi Fekrmandi, Ibrahim Nur Tansel, Kathleen Oyola, Abdullah Alsenawi, “**A non-contact method for part-based process performance monitoring in end milling operations**”, International Journal of Advanced Manufacturing Technology, Vol. 83, Issue 1–4, pp 13–20, 2016. DOI 10.1007/s00170-015-7523-2
8. M. Demetgul, V.Y. Senyurek, R Uyandik, I.N. Tansel, O. Yazicioglu, “**Evaluation of the health of riveted joints with active and passive structural health monitoring techniques**,” Measurement, Vol. 69, 2015, pp. 42-51. [doi:10.1016/j.measurement.2015.03.032](http://dx.doi.org/10.1016/j.measurement.2015.03.032)

9. Hadi Fekrmandi, Javier Rojas, Ibrahim N. Tansel, Ahmet Yapici, Balemir Urangun, **“Investigation of the computational efficiency and validity of the surface response to excitation method,”** Measurement, Volume 62, February 2015, pp 33–40. doi:10.1016/j.measurement.2014.10.053
10. Hadi Fekrmandi, Javier Rojas, Jason Campbell, Ibrahim Nur Tansel, Bulent Kaya, Sezai Taskin, **“Inspection of the Integrity of a Multi-Bolt Robotic Arm Using a Scanning Laser Vibrometer and Implementing the Surface Response to Excitation Method (SuRE),”** International Journal of Prognostics and Health Management, Vol. 5, 2014, http://www.phmsociety.org/sites/phmsociety.org/files/phm_submission/2013/ijphm_14_001.pdf
11. M. Demetgul, K. Yildiz, S. Taskin, I.N. Tansel, O. Yazicioglu, **“Fault Diagnosis on Material Handling System using Feature Selection and Data Mining Techniques,”** Measurement, Vol. 55, 2014, pp. 15-24. <http://dx.doi.org/10.1016/j.measurement.2014.04.037>
12. Ömer Erkan, Mustafa Demetgül, Birhan Isik, Ibrahim Nur Tansel, **“Selection of optimal machining conditions for the composite materials by using Taguchi and GONNs,”** Measurement, Vol. 48, 2014, pp. 306–313. doi:10.1016/j.measurement.2013.11.011
13. Ibrahim N. Tansel, Ahmet Yapici, **“Part Based Process Performance Monitoring (PbPPM),”** Journal of Manufacturing Processes, Volume 15, Issue 3, August 2013, pp 329–337, <http://dx.doi.org/10.1016/j.jmapro.2013.02.002>
14. I.N. Tansel, B. Reding, W. L. Cooper, **“Lagrangian Point State Estimation with Optimized, Redundant Induction Coil Gages,”** Experimental Mechanics, Volume 53, Issue 6 , 2013, pp 1065-1072, DOI 10.1007/s11340-013-9714-9.
15. I. N. Tansel, M. Li, K. Bickraj , M. Demetgul, B. Kaya, B. Ozcelik, " **Detecting chatter and estimating wear from the torque of end milling signals by using Index Based Reasoner (IBR)"** The International Journal of Advanced Manufacturing Technology, Volume 58, Numbers 1-4, 2012, pp.109-118, DOI: 10.1007/s00170-010-2838-5
16. M. Demetgul, M. Unal, I.N. Tansel, O. Yazıcıoğlu, **“Fault diagnosis on bottle filling plant using genetic-based neural network,”** Advances in Engineering Software, Volume 42, Issue 12, 2011, pp. 1051–1058
17. Ibrahim N. Tansel, Benjamin L. Grisso, Gurjiwan Singh, Gurjashan Singh, Srikanth Korla, Ramon Duran, Liming W. Salvino, **“Wear Estimation by Testing the Elastic Behavior of Tool Surface,”** International Journal of Machine Tools and Manufacture Volume 51, Issues 10-11, 2011, pp. 745-752
18. I.N.Tansel, M. Demetgul, K. Bickraj , B. Kaya, B. Ozcelik, **“Basic Computational Tools and Mechanical Hardware for Torque-Based Diagnostic of Machining Operations,”** Journal of Intelligent Manufacturing, Volume 24, Issue 1, pp 147-161, DOI: 10.1007/s10845-011-0550-4.
19. Babur Ozcelik, Emel Kuram, Erhan Demirbas, Emrah Sik, Ibrahim Tansel, **“Evaluation of New Vegetable Based Cutting Fluids on Thrust Force and Surface Roughness in Drilling of AISI 304 using Taguchi Method,”** Materials and Manufacturing Processes, Vol.26, 2011, pp.1136-1146.

20. S. Korla, R.A. Leon, I.N. Tansel, A. Yenilmez, A. Yapici, and M. Demetgul, "**Design and testing of an efficient and compact piezoelectric energy harvester**" *Microelectronics Journal*, Vol. 42 No. 2, 2011, pp.265-270.
21. I. N. Tansel, S.Gülmez, M. Demetgul, Ş.Aykut, "**Taguchi Method - GONNS Integration: Complete procedure covering from experimental design to complex optimization**" *Expert Systems with Applications*, Vol.38, No.5, 2011, pp.4780-4789.
22. I.N. Tansel, Mustafa Demetgul, Hasan Okuyucu, A. Yapici, "**Optimizations of Friction Stir Welding of Aluminum Alloy by Using Genetically Optimized Neural Network,**" *International Journal of Advanced Manufacturing Technology*, Volume 48, Numbers 1-4, 2010, pp.95-101.
23. Ş.Aykut, M. Demetgul, I.N. Tansel, "**Selection of optimum cutting condition of cobalt based super alloy with GONNS,**" *International Journal of Advanced Manufacturing Technology*, Volume 46, Numbers 9-12, 2010, pp.957-967.
24. I.N. Tansel, M. Demetgul, R.A. Leon, A. Yenilmez, A. Yapici, "**Design of Energy Scavengers of Structural Health Monitoring Systems by Using GONNS,**" *Sensors and Materials*, Vol.21, No.3, 2009, pp.141-153.
25. M. Demetgul, I.N. Tansel, S. Taskin, "**Fault diagnosis of pneumatic systems with artificial neural network algorithms,**" *Expert Systems with Applications*, In press, Volume 36, Issue 7, September 2009, Pages 10512-10519.
26. X. Wang, I.N. Tansel, "**Modeling Progress of Lamb Waves by using Genetic Algorithm and S-Transformation,**" *Structural Health Monitoring*, Vol.6, No.1, 2007, pp.25-37.
27. I.N. Tansel, F. Inanc, N. Reen, P. Chen, X. Wang, C. Kropas-Hughes, A. Yenilmez, *Journal of Nondestructive Evaluation* "**Neural Network Based Thickness Estimation from Multiple Radiographic Images,**", Vol. 25, No. 2, 2006, pp.53-66.
28. A. Yenilmez, D. Rincon, I.N. Tansel, F.I. Erazo, X. Wang, and P. Chen, *International Journal of Advanced Manufacturing Technology*, "**Estimation of the Chatter Zones of Drilled Holes by Using S-Transformation,**" Vol.31, No. 7-8, 2007, pp.638-644.
29. X. Wang, P. Chen, I.N. Tansel, A. Yenilmez, "**Transformations in Machining - 1 - Enhancement of Wavelet Transformation Neural Network (WT-NN) Combination with a Preprocessor,**" *Int. Jour. of Mach. Tools and Manufacturing*, Volume 46, Issue 1, January 2006, pp 36-42.
30. X. Wang, P. Chen, I.N. Tansel, A. Yenilmez, B. Ozcelik, *Int. Jour. of Mach. Tools and Manufacturing*, "**Transformations in Machining - 2 - Evaluation of Machining Quality and Detection of Chatter in Turning by using S-Transformation,**" Volume 46, Issue 1, January 2006, pp 43-50.
31. I.N. Tansel, B. Ozcelik, W.Y. Bao, P. Chen, D. Rincon, S.Y. Yang, A. Yenilmez, *Int. Jour. of Mach. Tools and Manufacturing*, "**Selection of Optimal Cutting Conditions by Using GONNS,**" Volume 46, Issue 1, January 2006, pp 26-35.
32. I.N. Tansel, W.Y. Bao, N. S. Reen, C.V Kropas-Hughes, *Int. Jour. of Mach. Tools and Manufacturing*, "**Genetic Tool Monitor (GTM) for Micro-End-Milling Operations,**" Vol.45, No.3, 2005, pp.293-299.

33. S.Y. Yang, V. Girivasan, N. R. Singh, I.N. Tansel, C.V Kropas-Hughes, Int. Jour. of Mach. Tools and Manufacturing, "**Selection of Optimal Material and Operating Conditions in Composite Manufacturing – II – Complexity, Representation of Characteristics and Decision Making**," Vol.43, No.2, 2003, pp.175-184.
34. S.Y. Yang, I.N. Tansel, C.V Kropas-Hughes, Int. Jour. of Mach. Tools and Manufacturing, "**Selection of Optimal Material and Operating Conditions in Composite Manufacturing – I – Computational Tool**," Vol.43, No.2, 2003, pp.169-173.
35. I. N. Tansel, M. E. Trujillo, W.Y. Bao, T. T. Arkan, Int. Journal of Modelling and Simulation, "**Acoustic Emission Based Tool Breakage Detector (TBD) for Micro-end-Milling Operations**," Vol.21, No.1, 2001, pp.10
36. B. Tansel, W.Y. Bao, I.N. Tansel, Desalination, "**Characterization of Fouling Kinetics in Ultrafiltration Systems by Resistances in Series Model**," Vol. 129, No. 1, 2000, pp.7-14.
37. W.Y. Bao, I.N. Tansel, Int. Jour. of Mach. Tools and Manufacturing, "**Modeling Micro-End-Milling Operations--III: Influence of Tool Wear**," Vol.40, No.15, 2000, pp.2193-2212.
38. W.Y. Bao, I.N. Tansel, Int. Jour. of Mach. Tools and Manufacturing, "**Modeling Micro-End-Milling Operations--II: Tool Run-out**," Vol.40, No.15, 2000, pp.2175-2192. (Cited over 100 times as of 4/4/16 according to Google Scholar)
39. W.Y. Bao, I.N. Tansel, Int. Jour. of Mach. Tools and Manufacturing, "**Modeling Micro-End-Milling Operations--I: Analytical Cutting Force Model**," Vol.40, No.15, 2000, pp.2155-2174. (Cited over 200 times as of 4/4/16 according to Google Scholar)
40. I.N. Tansel, T.T. Arkan, W.Y. Bao, N. Mahendrakar, B. Shisler, D. Smith, M. McCool, Int. Jour. of Mach. Tools and Manufacturing, "**Tool Wear Estimation in Micro-machining II – Neural Network Based Periodic Inspector for Nonmetals**," Vol.40, No.4, 2000, pp.609-620.
41. I.N. Tansel, T.T. Arkan, W.Y. Bao, N. Mahendrakar, B. Shisler, D. Smith, M. McCool, Int. Jour. of Mach. Tools and Manufacturing, "**Tool Wear Estimation in Micro-machining I – Tool Usage Cutting Force Relationship**," Vol.40, No.4, 2000, pp.599-608. (Cited over 100 times as of 4/4/16 according to Google Scholar)
42. I.N. Tansel, W.Y. Bao, T.T. Arkan, B. Tansel, Housing Science, "**Assessing Underground Contamination Concentration Profiles by Using Neural Networks**," Vol.23, No.1, 1999, pp.11-18.
43. B.Tansel, C. Jordahl, I.N. Tansel, Journal of Civil Engineering and Environmental Systems, "**Mapping of Subsurface Contaminant Profiles by Neural Networks**," Vol.16, 1999, pp.37-50.
44. I.N. Tansel, Key Engineering Materials, "**Monitoring micro-drilling operations using neural networks**," v 138-140 1998. p 575-592.
45. B. Tansel, B. Reyes-Osorno, I.N. Tansel, The Journal of Solid Waste Tecnology and Management, "**Comparative Analysis of Fluorescent Lamp Recycling and Disposal Options**," Vol.23, No.2, 1998, pp.82-88.
46. I. N. Tansel, M. Trujillo, A. Nedbouyan, C. Velez, Wei-Yu Bao, T.T. Arkan, B. Tansel, Int. Jour. of Mach. Tools and Manufacturing, "**Micro-End-Milling-III**."

- Wear Estimation and Tool Breakage Detection using Acoustic Emission Signals,"** Vol.38, No.12, 1998, pp.1449-1466.
47. I. N. Tansel, A. Nedbouyan, M. Trujillo, B. Tansel, Int. Jour. of Mach. Tools and Manufacturing, "**Micro-End-Milling-II. Extending Tool Life with a Smart Workpiece Holder (SWH)**," Vol.38, No.12, 1998, pp.1437-1448.
 48. I. N. Tansel, O. Rodriguez, M. Trujillo, E. Paz and W.Li, Int. Jour. of Mach. Tools and Manuf., "**Micro-End-Milling-I. Wear and Breakage**," Vol.38, No.12, 1998, pp.1419-1436. (Cited over 100 times as of 4/4/16 according to Google Scholar)
 49. I.N. Tansel, Ghaleb A. Satar, International Journal of Modelling & Simulation, "**A Fast Procedure for the Identification of Complex Mode Shapes in the Time Domain**," Vol. 18 n 3 1998. p 251-260.
 50. I.N.Tansel, M. Trujillo, W.Y. Bao, T. Arkan, Cutting Tool Engineering, "**Detecting Microtool Failures**," Vol.49, No.6, Sept, 1997, pp.54-62, 1997.
 51. I. N. Tansel, C. Mekdeci, and C. McLaughlin, Int. Jour. of Mach. Tools and Manufacturing, "**Detection of Tool Failure in End Milling with Wavelet Transformations and Neural Networks (WT-NN)**," Vol.35, No.8, 1995, pp.1137-1147.
 52. M. Trujillo, W. Li, B. Fallerio, E. Paz, I. Tansel, Int. Jour. of Mach. Tools and Manufacturing, "**Inspection of Micro-Tools at High Rotational Speeds**", 1993, Vol.34, No.8, 1994, pp.1059-1077.
 53. I.N. Tansel, Int. Jour. of Mach. Tools and Manufacturing, "**Identification of the Prefailure Phase in Microdrilling Operations with Multiple Sensors**", Vol.34, No.3, 1994, pp.351-364.
 54. I.N. Tansel, A. Tziranis, A. Wagiman, Journal of Intelligent Manufacturing, "**Modelling the Workpiece Dynamics with Neural Networks**", Vol.4, 1993, pp.95-107.
 55. I.N. Tansel, Jour. of Eng. for Ind., Transactions of ASME., "**Unified Transfer Function Approach for Modelling and Stability Analysis of 3-D Turning Operations**", Vol.115, No.2, 1993, pp.193-204.
 56. I.N. Tansel, C. Mekdeci, O. Rodriguez, B. Uragun, Int. Jour. of Mach. Tools and Manufacturing, "**Monitoring Drill Conditions with Wavelet Based Encoding and Neural Networks**", Vol.33, No.4, 1993, pp.559-575.
 57. I.N. Tansel, C. McLaughlin, Int. Jour. of Mach. Tools and Manufacturing, "**Detection of Tool Breakage in Milling Operations: Part 2 - The Neural Network Approach**", Vol.33, No.4, 1993, pp.545-558.
 58. I.N. Tansel, C. McLaughlin, Int. Jour. of Mach. Tools and Manufacturing, "**Detection of Tool Breakage in Milling Operations: Part 1 - The Time Series Analysis Approach**", Vol.33, No.4, 1993, pp.531-544.
 59. I.N.Tansel, C.Erkak, F. Karamidas, Int. Jour. of Mach. Tools and Manuf., "**The Chaotic Characteristics of Three Dimensional Cutting**", Vol.32, No.6, 1992, pp.811-829.
 60. I.N. Tansel, Int. Jour. of Mach. Tools and Manufacturing, "**Modelling of 3-D Cutting Dynamics with Neural Networks**", Vol.32, No.6, 1992, pp.829-853.
 61. I.N. Tansel, O. Rodriguez, Transactions of the North American Manufacturing Research Institution of SME, "**Automated Monitoring of Microdrilling Operations**", May 1992, pp. 205-210.

62. I.N. Tansel, C. McLaughlin, Transactions of the North American Manufacturing Research Institution of SME, "**On-Line Monitoring of Tool Breakage with Unsupervised Neural Networks**", May 1991, pp.364-370.
63. I.N. Tansel, A. Tziranis, A. Wagiman, Int. Jour. of Mach. Tools and Manuf.Des., Res. and Applic., "**Recognition of Chatter with Neural Networks**", Vol.31, No.4, 1991, pp.539-552.
64. I. N. Tansel, Transactions of the North American Manufacturing Research Institution of SME, "**Neural Network Approach for Representation and Simulation of 3-D Cutting Dynamics**", Vol.18, May 1990, pp.193-200.
65. I.N. Tansel, Int. Jour. of Mach. Tools and Manuf.Des., Res. and Applic., "**Simulation of Turning Operations**", No.4, Vol.30, 1990, pp. 535-547.

Technical Reports:

David Lambert, William Cooper, Ibrahim Tansel, Keith Jamison, **Science ApplicatiParticulate Meso-scale Mechanics Diagnostics: Magnetic Sensors for Dynamic State Orientation**, AFRL-RW-EG-TR-2014-005, December 2013.

T. C. Yih, I. N. Tansel, K. H.Wu, **Research Experience for Undergraduates in Robotics and Materials**, WL-TR-93-8021, March 1993,

Web based publications:

1. I.N. Tansel, "**Energy Harvesting from Ambient Vibration and Ocean Waves**," Knovel, <http://engineeringcases.knovelblogs.com/2011/01/03/energy-harvesting-from-ambient-vibration-and-ocean-waves/> January, 3rd,2001.

Published Proceedings and Thesis:

2. S. Tosunoglu, T.C. Yih, I.N. Tansel, **Proceedings of the 1997 Florida Conference on Recent Advances in Robotics** 1997.
3. I.N. Tansel, Ph.D. Thesis, **On-line Identification and Stability Analysis of Three Dimensional Cutting**, University of Wisconsin-Madison, 1986.

Conference Papers Published in "Intelligent Engineering Systems Through Artificial Neural Networks" Vol.1 through Vol.13, ASME Press, New York, (1991-2003), "Artificial Neural Networks and Neural Information Processing – ICANN/ICONIP2003", Lecture Notes in Computer Science (2003), and Review of Progress in Quantitative Nondestructive Evaluation, AIP Press, 2005, 2006, Structural Health Monitoring, DEStech Publications 2005 to 2017:

1. A. Baghalian, S. Tashakori, V. Y. Senyurek, M. Unal, I.N. Tansel, "**Novel Approaches for Loose Bolt Detection with and without Sensors Using Heterodyning Effect**," Structural Health Monitoring 2017, Real-Time Material State

- Awareness and Data-Driven Safety Assurance, Edited by Fu-Kuo Chang and Fotis Kopsaftopoulos, DEStech Publications, Inc. 2017, pp. 927 – 934.
2. S. Tashakori, A. Baghalian, V. Y. Senyurek, M. Unal, I.N. Tansel, “Heterodyning Effect in Composites Bond Inspection,” Structural Health Monitoring 2017, Real-Time Material State Awareness and Data-Driven Safety Assurance, Edited by Fu-Kuo Chang and Fotis Kopsaftopoulos, DEStech Publications, Inc. 2017, pp. 1388 – 1395.
 3. H. Fekrimandi, I. N. Tansel, R. Gonzalez, S. Rojas, D. Meiller, K. Lindsay, A. Baghalian, S. Tashakori, “**Implementation of the Surface Response to Excitation (SuRE) Method with DSP’s for Detection of the Damage of Thick Blocks,**” Structural Health Monitoring 2015, Proceedings of the 10th International Workshop on Structural Health Monitoring 2015,
 4. Sergio Gonzalez, Javier Rojas, Hadi, Fekrmandi, Ibrahim N. Tansel, Balemir Urangun, “**Implementing the Surface Response to Excitation Method (SuRE) with Non-Contact Sensors at Hard to Reach Locations,**” Structural Health Monitoring 2013, Proceedings of the 9th International Workshop on Structural Health Monitoring 2013, DEStech Publications, Inc. Edited by Fu-Kuo Chang, 2013, pp. 311-318.
 5. Ibrahim N. Tansel, Benjamin L. Grisso, Gurjiwan Singh, Gurjashan Singh, Srikanth Korla, Liming W. Salvino, “**Health Monitoring of Aluminum Weldings with the Surface Response to Excitation (SuRE) Approach,**” Structural Health Monitoring 2011, Proceedings of the 8th International Workshop on Structural Health Monitoring 2011, DEStech Publications, Inc. Edited by Fu-Kuo Chang, 2011, pp. 1691-1698.
 6. M. Li, X. Li, I. N. Tansel, M. Demetgul, “**Development of Effective Structural Health Monitoring Strategies Using Self Organized Map and Index Based Reasoning,**” Structural Health Monitoring 2009 (Proceedings of the 7th International Workshop on Structural Health Monitoring (IWSHM 2009)) Edited by Fu-Kuo Chang, DEStech Publications, 2009, p. 561-568.
 7. I. N. Tansel, M. Li, A. Yapici, “**Evaluation of Performance of the Index Based Reasoning (IBR) at a Simulated UAV,**” Structural Health Monitoring 2007 (Proceedings of the 6th International Workshop on Structural Health Monitoring (IWSHM 2007)) Edited by Fu-Kuo Chang, DEStech Publications, 2007, p. 264
 8. I. N. Tansel, X. Wang, J. Wu, P. Chen, A. Yenilmez, “**Diagnostic of Actuators by the Analysis of the Motion with Genetic Algorithms,**” Structural Health Monitoring 2005 (Proceedings of the 5th International Workshop on Structural Health Monitoring (IWSHM 2005)) Edited by Fu-Kuo Chang, DEStech Publications, 2005
 9. A. Yenilmez, A. Yapici, I. N. Tansel, S. A. Martin, C. M. Pereira, L. E. Roth, Review of Progress in Quantitative Nondestructive Evaluation, edited by Drs. D.O. Thompson and D.E. Chimenti, “**Design of Energy Scavengers with the Help of Finite Element Packages,**” AIP Press, 2007, Vol. 894, pp. 957-966.
 10. A. Yapici, K. Bickraj, A. Yenilmez, M. Li, I. N. Tansel, S. A. Martin, C. M. Pereira, L. E. Roth, Review of Progress in Quantitative Nondestructive Evaluation, edited by Drs. D.O. Thompson and D.E. Chimenti, “**Representation of the Characteristics of Piezoelectric Fiber Composites with Neural Networks,**” AIP Press, 2007, Vol. 894, pp. 918-925.
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42. **"Monitoring and Management of Machines with Wireless PDAs in the Wireless Networked Facilities,"** I. N. Tansel, N. Singh, P. Chen, X. Wang, W. Bao, C. Dede, S. Tosunoglu, F. Inanc, C.V. Kropas-Hughes, Proceedings of the ICM04 Conference, 2004.
43. **"Open Architecture Control System for Miniature Machine Tools,"** P.Chen, and I.N.Tansel, Proceedings of the 15th Florida Conference on Recent Advances in Robotics (CD), Edited by S. Tosunoglu, 2002
44. **"Electro-Optic Vibration Sensor for Micro-Machining,"** P.A.Diehl, P.Chen, and I.N.Tansel, Proceedings of the 15th Florida Conference on Recent Advances in Robotics (CD), Edited by S. Tosunoglu, 2002
45. **"Evaluation of Tool Conditions by using Genetic Algorithm,"** L.Li, W.Y.Bao, and I.N.Tansel, Proceedings of the 15th Florida Conference on Recent Advances in Robotics (CD), Edited by S. Tosunoglu, 2002
46. **"Representation of a Function with Three Variables by using Neural Networks,"** Alberto Martin, Miguel Espina, Oscar Rodriguez, and Ibrahim Tansel, presented at the Workshop on Artificial Intelligence and Mathematical Methods in Pavement and Geomechanical Systems, published in Artificial Intelligence and Mathematical Methods in Pavement and Geomechanical Systems, Edited by Nii O. Atth-Okine, November 1998.
47. **"Modeling of Building Performance with Self Learning Systems for Estimating Wind Damage,"** B. Tansel, I.N. Tansel, presented at the Workshop on Artificial Intelligence and Mathematical Methods in Pavement and Geomechanical Systems, published in Artificial Intelligence and Mathematical Methods in Pavement and Geomechanical Systems, Edited by Nii O. Atth-Okine, November 1998, pp.163-169.
48. **"Design and Realization of an Automated Log Strip Seperator,"** I.N. Tansel, T.T. Arkan, W.Y. Bao, J. Shaw, C.A. Velez, T.C. Yih, S. Tosunoglu, I. Fernandez, B. Tansel, Proceedings of the 1997 Florida Conference on Recent Advances in Robotics, pp. 8-11.

49. **"Prototyping for High-Tech Consumer Products,"** B. Shisler, D. Johnson, D. Smith, I.N. Tansel, W. Bao, T.T. Arkan, Proceedings of the 1997 Florida Conference on Recent Advances in Robotics, pp. 24-26.
50. **"Tool Breakage Detection in the Micro-Machining of Aluminium by Monitoring Acoustic Emission,"** I.N. Tansel, M.E. Trujillo, W.Y. Bao, T.T. Arkan, Proceedings of the 1997 Florida Conference on Recent Advances in Robotics, pp. 230-234.
51. **"Detection of Prefailure Phase in Micro-End-Milling operations,"** presented at the IERC Conference in Miami Beach on May 17-18, 1997.
52. **"Detection of Tool Breakage in Micro-End-Milling Operations by Monitoring Acoustic Emission,"** Technical Papers of the North American Manufacturing Research Institution of SME 1997, pp. 69-74.
53. **"Solving industrial Problems in Mechatronics Class,"** I.N. Tansel, T.T. Arkan, W.Y. Bao, J. Show, C.A. Veldez, T.C. Yih, S. Tosunoglu, I. Fernandez, Proceedings of Mechatronics 96, June 13-15, 1996.
54. **"Spur Gear Inspection with a Machine Vision System,"** I.N. Tansel, W Li, A. Arch, *Proceedings of the 1995 NSF Design and Manufacturing Grantees Conference*, published by SME, Jan. 4-6, 1995, 369-370.
55. **"Estimation of the Prefailure Phase in Microdrilling Operations Using Laser Vibrometer,"** I.N. Tansel, T.C. Yih, S. Tosunoglu, and B. Urangun, presented at the International Conference on Recent Advances in Mechatronics (ICRAM'95), and published in *Recent Advances in Mechatronics*, Istanbul, Turkey, Edited by O. Kaynak, M. Ozkan, N. Bekiroglu, and I. Tunay, Vol.1, Aug. 14-16, 1995, pp.328-332.
56. **"Design of Smart Workpiece Holder (SWH) to Extend the Useful Life of Micro-Tools,"** I. Tansel, A. Nedbouyan, and M. Trujillo, Proceedings of IEEE 21st International Conference on Industrial Electronics, Control and Instrumentation (IECON'95), Orlando, Florida, Vol.1, Nov. 6, 1995, pp.116-120.
57. **"Spur Gear Inspection with a Machine Vision System,"** W. Li, I.N. Tansel, A. Arch, ASME Petroleum Division Publication, PD-Vol.74, 1996, No.2, pp. 245-250.
58. **"High Speed Profile Inspection by Using the Surface Reflection of a Laser Beam,"** I.N. Tansel, *Proceedings of the 1994 NSF Design and Manufacturing Grantees Conference*, published by SME, Jan. 5-7, 1994, 483-484.
59. **"Automated Nonlinear Calibration of Machine Vision Systems for Dimensional Measurement,"** I. N. Tansel, W. Li, E. Paz, C. Levy, B. Himmel, D. Board, *Proceedings of the First S.M. Wu Symposium on Manufacturing Science*, Published by SME, May, 1994, pp.231-235.
60. **"Micro-Tool Inspection by Following the Laser Beam Reflection and the Abductory Induction Mechanism (AIM),"** I. N. Tansel, M. Trujillo, C. Levy, B. Himmel, D. Board, *Proceedings of the First S.M. Wu Symposium on Manufacturing Science*, Published by SME, May, 1994, pp.363-367.
61. **"Detection of Tool Failure in End Milling with Wavelet Transformations and Neural Networks (WT-NN),"** I. N. Tansel, C. Mekdeci, and C. McLaughlin, *Manufacturing Science and Engineering*, PED-Vol.64, Edited by K.F. Ehmann, Published by ASME, December, 1993, pp.369-374.

62. **"Identification of the Prefailure Phase in Microdrilling Operations with Multiple Sensors,"** I. N. Tansel, *Neural Networks in Manufacturing and Robotics*, Edited by Y. C. Shin, A. H. Abodelmonem, S. Kumara, PED-Vol.57, 1992, pp. 23-36.
63. **"Monitoring Microdrilling Operations with Wavelets,"** I. N. Tansel, C. Mekdeci, O. Rodriguez, and B. Uragan, *Quality Assurance Through Integration of Manufacturing Process and Systems*, Edited by A. R. Thangaraj, A. Bagci, M. Anjanappa, D. K. Anand, PED-Vol.56, 1992, pp. 151-163.
64. **"Minimization of Control Points for the Execution of Robotic Trajectory with Assigned Maximum Deviation-Theory and Experiment,"** B. Donoso, T. C. Yih, and I. N. Tansel, presented and published at the SIAM 40th Anniversary Meeting, 1992.
65. **"Analysis of Subsurface Contaminant Transport by Neural Networks in Dade County, Florida,"** C. Jordahl, B. Tansel, I. N. Tansel, presented and published at the Fourteenth Annual Madison Waste Conference, Sept. 23-24, Madison, Wisconsin, 1992.
66. **"Detection of Tool Breakage in Microdrilling Operations with RCE Neural Networks,"** I. N. Tansel, C. Mekdeci, and O. Rodriguez, *General Design Analysis, Considerations and Applications*, Edited by A. Ertas, I. Konuk, I.I. Esat, A.K. Erden, F. Martelli, ASME, 1992, pp. 83-88.
67. **"An Intelligent Diagnostic System for Fault and Performance Prediction,"** I. N. Tansel, *Southcon/92 Conference Record*, March 1992, pp. 110-114.
68. **"Transport of Tetrachloroethylene, Trichloroethylene and Vinyl Chloride in Groundwater,"** C. Jordahl, B. Tansel, and I. N. Tansel, *Proceedings of American Society of Civil Engineers*, South Florida Section 1992 Annual Meeting, October 2-3, 1992.
69. **"Monitoring of Tool Breakage with Restricted Coulomb Energy Type Neural Networks,"** I. N. Tansel and C. MacLaughlin, *Sensors, Controls, and Quality Issues in Manufacturing*, Editors: T. I. Liu, C. H. Menq, and N. H. Chao, ASME, PED-Vol. 55, 1991, pp. 59-65.
70. **"The Chaotic Characteristics of 3-D Turning Process,"** I. N. Tansel and C. Erkal, *Sensors, Controls, and Quality Issues in Manufacturing*, Editors: T. I. Liu, C. H. Menq, N. H. Chao, ASME, PED-Vol. 55, 1991, pp. 319-331.
71. **"Identification of Tool Breakage with Time-Series Analysis in Milling Operations,"** I. N. Tansel and C. MacLaughlin, *Control of Manufacturing Process*, Editors: K. Danai and S. Malkin, DSC-Vol. 28, PED-Vol. 52, ASME, 1991, pp. 59-65.
72. **"Signal Recognition and Frequency Estimation Capability of Backpropagation Type Neural Networks,"** I. N. Tansel and A. Tziranis, *Parallel and Distributed Computing Systems*, Editor: R. A. Ammar, Acta Press, 1991, pp. 156-160.
73. **"Modal Analysis with the Recursive Multichannel Maximum Entropy Method"** I. N. Tansel, *Proceedings of Manufacturing International 1990*, pp. 301-309.
74. **"Modeling the Vibrations of Long Slender Bars with Neural Networks,"** I. N. Tansel and A. Tziranis, presented at the Winter Annual Meeting of ASME 1990, and published in *Modeling of Machine Tools: Accuracy, Dynamics, and Controls*, Edited by P. M. Ferreira, S. G. Kapoor, and A. C.-Y. Wang, ASME, 1990, pp. 209-217.

75. **"Increasing the Capabilities of Machine Tools with Self-Learning Intelligent Controllers,"** I. N. Tansel, presented at the International Manufacturing Technology Conference 1990, and published as **SME Technical Paper: MS90-429**, 1990.
76. **"Identification of Tool Breakage In Milling Operations by Using On-Line Tooth Modeling,"** I. N. Tansel, Charles McLaughlin, and Michael Clements, presented at the IASTED International Symposium on Robotics and Manufacturing, 1989 and published in *Robotics and Manufacturing*, Editor M. H. Hamza, ACTA Press, 1989, pp. 244-248.
77. **"Stability Analysis of Long Slender Bars by Using the Unified Transfer Functions,"** I. N. Tansel, *Proceedings of Manufacturing International 88, Symposium on Product and Process Design*, (Ed. by G. Chryssolouris and R. Komanduri), ASME, 1988, pp. 345-351.
78. **"Use of a Fast Sequential Algorithm for Identification of End Milling Operations,"** I. N. Tansel and B. Clarke, *Proc. of 3rd International Conference on Computer-aided Production*, June, 1988, pp. 518-525.
79. **"Frequency Response Estimation Accuracy of the Recursive Multichannel Maximum Entropy Method,"** I. N. Tansel and G. A. Sater, *Modal Testing and Analysis* (edited by T. G. Carne and J. C. Simonis), ASME, 1987, pp. 97-103.
80. **"Detection of Machining Problems by Machine Vision Systems,"** I. N. Tansel and B. Clarke, *Proceedings of Autofact Conference*, 1987, pp. 5-59-73, also SME Technical Paper MS87-687.
81. **"Transfer Function of Cutting Dynamics in Three Dimensional Cutting,"** I. N. Tansel and K. F. Eman, *Proc. of NAMR Conf.*, May 1985, pp. 476-481.
82. **"Identification of Engineering Systems with the Recursive Multichannel Maximum Entropy Method,"** K. F. Eman and I. N. Tansel, *Proc. of 12th Conf. on Prod. Res. and Tech.*, May 1985, pp. 57-61.

Presentations at the Workshops (Papers are reviewed):

1. **"Preparing Young Engineers For All Electric Airplane And Integrated Systems Health Management"**, I.N. Tansel, A. Yenilmez, A. Yapici , Aeronautics and Space Education Workshop (ASEW 2006), 22-23 June, Istanbul, TURKEY, 2006.
2. **"Integration of Corrosion Resistance into the Design Process by Using Genetically Optimized Neural Network Systems (GONNS),"** I.N. Tansel, 4th International Aircraft Corrosion Workshop Sponsored by the Naval Air Systems Command and The Office of Naval Research, Solomons, Maryland, 22-25 August 2000.
3. **"Detection of Hidden Corrosion with X-Ray Images,"** C.V. Kropas-Hughes, J.L. Blackshire, I.N. Tansel, N. Munroe, 5th International Aircraft Corrosion Workshop Sponsored by the Naval Air Systems Command and The Office of Naval Research, Solomons, Maryland, 22-25 August 2002.

Articles Discussing Dr. Tansel's Research Work

1. **"NAMRCXX, Challenging the Status Quo,"** R. R. Schreiber, *Manufacturing Engineering*, July 1992, pp. 105-109.

2. **"NAMRCXIX Report, Manufacturing Research Conference Shows Practical Side of R&D,"** C. M. Bauer, July 1991, pp. 55-58.
3. **"What's new in Metalworking Research,"** J. Jablonowski, American Machinist, July 1990, pp.67-68.

Published or Accepted Papers at Undergraduate Research Conferences

1. **"Development of a Semi-Automated Gear Roller Mechanism,"** E. Paz, B. Falerio, R. Gonzalez, and I. N. Tansel, to be published in the *Proceedings of Seventh National Conference on Undergraduate Research*, 1993.
2. **"Classification of Phonocardiograms with RCE type Neural Networks,"** C. Mekdeci, (I. N. Tansel, Advisor), Sixth National Conference on Undergraduate Research, 1992, and published in the *Proceedings* of the conference.

Presentations

"Waveform and Frequency Identification with Neural Networks," A. Wagiman, A. Tzirianis, and I. N. Tansel, presented at the Neural Networks for Automatic Target Recognition Conference 1990.

"A New Complexity Index for Automated Cost Estimation in Composite Material Manufacturing," A. Sasirathsin, G. Venkataraman, S. Yang, I.N. Tansel, W. Bao, J. Murray, J. Cardinal, presented at the 200 Florida Conference on Recent Advances in Robotics, 2000

(http://www.eng.fau.edu/conf/fcrar2000/papers/Composite_Material_Parts.pdf).

"Automated Evaluation of the Surface Characteristics of Complex Lens Surfaces," A. Sasirathsin, G. Venkataraman, S. Yang, I.N. Tansel, W. Bao, presented at the 200 Florida Conference on Recent Advances in Robotics, 2000.

(http://www.eng.fau.edu/conf/fcrar2000/papers/Complex_Lens_Surfaces.pdf)

"Microscopic NDE of Hidden Corrosion," Presented at the 8th Annual International Symposium on NDE for Health Monitoring and Diagnostics, March, 2003.

Thesis:

On-line Identification and Stability Analysis of Three Dimensional Cutting, I.N. Tansel, Ph.D. Thesis, University of Wisconsin-Madison, 1986.

Selection of Design Parameters for Plastic Extruders, I.N. Tansel, M.S. Thesis, Technical University of Istanbul, Turkey, 1980.

FUNDED RESEARCH AND ACTIVITIES

"Manufacturing Lab", Brian Reding, I.N. Tansel, FIU Technology Fee Grant, 2017 for 1 year, \$429,304.

"University City Sweetwater Cost share", Andres Tremante, I.N. Tansel, City of Sweetwater, 2016 for 1 year, \$55,000.

“EMA3702L & EML3301L Lab Upgrades”, Brian Reding, I.N. Tansel, FIU Technology Fee Grant, 2014 for 1 year, \$103,132

“EMA3126L & EML4906L Lab Upgrades”, Brian Reding, I.N. Tansel, FIU Technology Fee Grant, 2014 for 1 year, \$91,127

“Unmanned Aerial Vehicle w/ Fire Extinguishing”, NASA – Florida Space Grant Consortium, University of Central Florida, 2014 for 1 year, \$500

“Development of a Multipurpose quadcopter”, NASA – Florida Space Grant Consortium, University of Central Florida, 2014 for 1 year, \$500

“Development of a Micro Satellite”, NASA – Florida Space Grant Consortium, University of Central Florida, 2014 for 1 year, \$1,000

“Remote Ophthalmology Robotic Device Prototype,” Sabri Tosunoglu (PI), Ibrahim Tansel (Co-PI), TYB LLC, February 1, 2015, for 1 year, \$50,815.

“Florida International University (FIU)-AFRL/RW Collaboration,” Ibrahim Tansel, Sabri Tosunoglu, Eglin AFB, 2014, for 1 year, \$75,000.

“Summer Faculty Fellowship Program,” Eglin AFB, July- August 2013, (over \$15,000 for salary and expenses)

“Summer Faculty Fellowship Program,” Eglin AFB, July- August 2012, (over \$20,000 for salary, expenses and one student support)

“Support for the Mechanical Engineering Senior Design Projects,” Sabri Tosunoglu, Ibrahim Tansel, 2011, Eglin AFB, for 2 years, \$50,000.

“Aerobota,” NASA – Florida Space Grant Consortium, University of Central Florida, 2011 for 1 year, \$3,000.

“Summer Faculty Research Program,” Structures and Composite (Code 652), Carderock Division, NSWC, July- August 2011, (over \$20,000 for salary and expenses)

“Aerobota,” NASA – Florida Space Grant Consortium, University of Central Florida, 2010 for 1 year, \$1,500

“Enhancement of Mechatronics Education,” FIU, 2010 for 1 year, 17,600

“Summer Faculty Research Program,” Structures and Composite (Code 652), Carderock Division, NSWC, July- August 2010, (over \$20,000 for salary and expenses)

“Degradation of Signal Quality of Structural Health Monitoring Systems with Time,” I.N. Tansel, Berrin Tansel, GDIT (WPAFB), November 2008, for 16 months \$115,170.

“Air Force/Summer Faculty Fellowship,” Eglin AFB, Eglin, FL, May-August 2008 (over \$20,000 for salary)

“Introduction of Entrepreneurship Skills to Mechanical Engineering Students,” Kauffman Professorship, February 2007, for 1 year, \$15,000.

“Modification of the Flight Characteristics by Considering Structural Integrity,” I.N. Tansel, GDIT (WPAFB), August 2007, for 12 months \$47,000.

“Development of Small Energy Scavenger (SES),” I.N. Tansel, ARMY, TACOM-ARDEC, PC3 Group G, BAA No. W15QKN-04-R-0707, September 2005, for 27 months, \$100,000

“Preliminary Study for Development of Structural Health Conscious Autonomous Guidance and Control System,” D. Rincon, I.N. Tansel, WPAFB, August 2005, for 18 months \$150,000.

“Vehicle Health Monitoring – Software development and testing,” I.N. Tansel, Iowa State University, 100K, for 24 months, 2003.

“Summer Faculty Research Program,” Kennedy Space Center, NASA, May-August 2005, ASEE (over \$12,000 for salary)

“Summer Faculty Research Program,” Kennedy Space Center, NASA, May-August 2004, ASEE (over \$12,000 for salary)

“Active Vibration Control of Manufacturing Processes,” D. Rincon, I.N. Tansel, Sikorsky Aircraft Corporation, \$90,000, 2002 (18 months).

“Identification of hot spots and most suitable structural health monitoring techniques for landing gears,” I.N. Tansel, D. Rincon, Universal Technology Corporation (\$15,000), 2003, (2 months)

“Summer Faculty Research Program,” Naval Air Warfare Center, Aircraft Division (NAWCAD), July- August 2000, Naval Air Warfare Center, Training Systems Division (NAWCTSD), April- June 2001, ASEE (over \$16,000, and over \$16,000 for salary)

“Air Force/Summer Faculty Fellowship,” Wright Patterson AFB, Dayton, OH, July-August 2001, May-August 2002, 2003, 2006 (over \$10,000 first year, over \$20,000 at the feature visits for salary)

“Development of Hidden Corrosion Detection by Dual-Energy X-Ray,” I.N. Tansel, Universal Technology Corporation (\$19,900), 2002, (Duration 6 months)

“Enhancement of the Complexity Estimation Tool- Phase I,” I.N. Tansel, Motorola, (\$4,900), 2002, (Duration 3 months)

“Support of Mentor-Protege Program between TRW and Frontier Electronics,” K. Jones, I.N. Tansel, TRW, (34,000), 1999, (Duration 1 year)

“Motorola-FIU Collaboration-III,” I.N. Tansel, Motorola, (\$12,500), 1999, (Duration 4 months)

“Development of a Composite Material Selection Advisor (CoMSA) by using Genetic Algorithms and Neural Networks,” I.N. Tansel, Wright Patterson AFB, (\$130,000), 1999, (Duration 3 years).

“U.S. Egypt Cooperative Research: Building a CNC Machining System with an Open Architecture Controller”, I.N. Tansel, National Science Foundation, (\$24,000), 1998, (Duration 2 years).

“Machinability for the Materials Prepared by Using Three-Dimensional Printing,” I.N. Tansel, Motorola, (\$17,500), 1998, (Duration 1 year)

“Motorola-FIU Collaboration-II,” I.N. Tansel, Motorola, (\$15,000), 1998, (Duration 4 months)

“Motorola-FIU Collaboration,” I.N. Tansel, Motorola, (\$8,450), 1997, (Duration 4 months)

“Design and Manufacture of Automated Cutting Mechanism,” L.E.R. enterprises, (\$10,000), 1996, (Duration 1 year).

“Using Trainable Neural Networks for the Three-Dimensional Characterization of Subsurface Contamination”, I.N. Tansel, EPA-NHSRC, (\$54,000), 1995, (Duration 1 year).

"Development of a Rapid Manufacturing System", F. Chen, I.N. Tansel, ARPA (373,454), 1995.

"Enhancement of Mechanical Engineering Curriculum with Signal Processing Applications", I.N. Tansel, C. Levy, NSF (33,000), 1995.

"Neural Network Based Machine Diagnostic", C. Levy, I.N. Tansel, M. El-Said, K.H. Wu, DME Corporation, (\$30,000), 1993, (Duration 1 year).

"Development of Intelligent Gear Inspection System", I.N. Tansel, A. Arch, National Science Foundation, (\$25,000), 1992, (Duration 15 months).

"Research Experience for Undergraduates in Robotics and Manufacturing", T.C. Yih, I.N. Tansel, K. Wu, Wright Patterson Air Force Base, (\$92,000), 1991.

"Attendance of one student to Sixth National Conference on Undergraduate Research", NSF, (\$500), 1992.

"Development of High Temperature Two-Way Shape Memory Alloys", K. Wu, K. Jones, I.N. Tansel, U.S. Army, (\$320,000), 1991

"Attendance to Airplane Design Seminar", I.N. Tansel, National Science Foundation, (\$1,000), 1991.

"Grant Proposal", S.M. Lee, J.G. Chow, I.N. Tansel, Society of manufacturing Engineers Manufacturing Engineering Education Foundation, (384,245 in-kind), 1997.

"Grant Proposal", C. Chen, I.N. Tansel, S.Lee, Society of manufacturing Engineers Manufacturing Engineering Education Foundation, (14,380 in-kind), 1991.

"Grant Proposal", I.N. Tansel, A. Saigal, Society of manufacturing Engineers Manufacturing Engineering Education Foundation, (5,250 in-kind), 1990.

"Grant Proposal", I.N. Tansel, A. Saigal, Society of manufacturing Engineers Manufacturing Engineering Education Foundation, (23,100 in-kind), 1989.

"Grant Proposal", A. Saigal, I.N. Tansel, Society of manufacturing Engineers Manufacturing Engineering Education Foundation, (11,650 in-kind), 1988.

"Grant Proposal", A. Saigal, I.N. Tansel, Society of manufacturing Engineers Manufacturing Engineering Education Foundation, (52,095 in-kind), 1987.

"Development of an Intelligent Tool Monitoring System for Machine Tools", FIU Foundation, (\$12,314), 1991.

"Development of an Intelligent Manufacturing Cell", I.N. Tansel, General Electric Corporation (provided industrial robot, worth over \$61,000), 1987.

"Modern Quality Control with Industrial Applications", College of Engineering of Tufts University, Development of an applied course for AT&T engineers, and Tufts students, (total \$120,000 package), 1989

"Energy Related Laboratory Equipment", I.N. Tansel, E. Bigzadeh, Department of Energy, (over \$800,000 face value), 1990, 1991.

"Summer Faculty Fellowship", Tufts University (\$4000), 1988.

SUPERVISED POST-DOCS

1. Dr. Volkan Yusuf Senyurek, 2016
2. Dr. Muhammet Unal, 2015
3. Dr. Can Liu, 2015
4. Dr. Bulent Kaya, 2013
5. Dr. Caner Akuner, 2013

6. Dr. Metin Gumus, 2013
7. Dr. Veli Sume, 2013
8. Dr. Sezai Taskin, 2013
9. Dr. Mustafa Demetgul, 2007- 2009
10. Dr. Pablo Rodríguez Mateos, 2008, 2009
11. Dr. Ahmet Yapici, 2006-2007
12. Dr. Aylin Yenilmez, 2004-2006, 2009
13. Dr. Babur Ozcelik, 2004

SUPERVISED Ph.D. THESIS

1. Wei-Yu Bao, " Tool Cutting Force Modeling and Wear Estimation of Micro-End Milling Operations", 1999, Current position FIU.
2. Ming Li, "Development and Performance Assessment of Integrated Structural Health Monitoring Systems," 2010, Current position: University of Michigan - Flint.
3. Srikanth Korla, "Inspection of Parts with Complex Geometry and Welds with Structural Health Monitoring Techniques", 2011, Current position at National Institute of Technology (NIT), Warangal.
4. Hadi Fekrmandi, Development of New Structural Health Monitoring Techniques, 2015, Current position South Dakota School of Mines & Technology.
5. Amin Baghalian, Detecting Structural Defects Using Novel Smart Sensory and Sensorless Approaches, 2017, Current position industrial research.

ADVISED MS STUDENTS

1. Ghaleb Abdulsater "Modal Analysis with the Recursive Multichannel Maximum Entropy Method", 1987.
2. Bruce Clarke "A Study of End Milling Operations and System Identification Methods", 1988.
3. Charles McLaughlin "Detection of Tool Breakage", 1990.
4. Medardo Trujillo "Inspection of Metal Cutting by using Acoustic Emission Signals", 1996.
5. Oscar Rodriguez* "Monitoring Micromachining Operations", 1998.
6. Weijing Lee* "Development of a Gear Inspection System", 1998.
7. Tug T. Arkan, "Wear Estimation in Micro-End-Milling", 1998.
8. Amnad Sasirathsiri, "Automatic Programming of CNC for Lens Manufacturing", 2000
9. Victor De Rossi, "Development of a Near-Perfect Lens Surface Generation Advisor (NPLSGA)," 2000
10. Girivasan Venkataraman, "Development of a Composite Material Selection Advisor for Polymer Matrix Composites (PMCs)," 2000
11. Shaoyu Yang, "Genetically Optimized Complex Neural Network System," 2000
12. Reen Nripjeet Singh, "Improvement of Existing Complexity Estimation Method," 2002 from Mechanical Engineering.
13. Liang Li, "Genetic Algorithm Based Open Architecture Cutting Tool Monitoring System," 2002.
14. Peng Chen, "Development of an Open Architecture Control System", 2002

15. Reen Nripjeet Singh, "Processing of Non-Destructive Testing Data by Using Trainable Networks," Worked with his Advisor from Computer Science 2004 received M.S. Degree from Computer Science.
16. Xiaoyu Wang, "Signal Processing for Health Monitoring System Applications," 2005.
17. Jiankun Wu^{*}, Worked on Structural Health Monitoring from accelerometer data, 2005
18. Muhammad Ashraf Haque^{**}, "Experimental Characterization of Piezoelectric Materials," 2007
19. Rene Leon "Development of a Small Energy Scavenger (SES)," 2007
20. Kimberly Bikraj, "Monitoring Tool Wear and Chatter by Using an Index Based Reasoning Approach," 2007
21. Gurjiwan Singh, "Monitoring the Health of Plates with Simultaneous Application of Lamb Waves and Surface Response to Excitation Approaches," 2010
22. Gurjashan Singh, "Health Monitoring of Round Objects Using Multiple Structural Health Monitoring Techniques," 2010
23. Javier Rojas^{*}, Worked on "Implementing the Surface Response to Excitation Method (SuRE) with Non-Contact Sensors at Hard to Reach Locations," 2013
24. Jose Alfonso Matos, "Development of a Body for a Pneumatic Crawler for Radioactive Waste Pipelines," 2013
25. Sergio Gonzalez, "Implementing the Surface Response to Excitation Method (SuRE) with Non-contact Sensors", 2013

^{*} Student prepared a project report and graduated without thesis.

^{**} The report was finished in 2007 but student has not graduated since he has not completed requirements of the Graduate School.

PROFESSIONAL DEVELOPMENT ACTIVITIES

Summer Faculty Research Program, Naval Air Warfare Center, Aircraft Division (NAWCAD), July- August 2000

Summer Faculty Research Program, Naval Air Warfare Center, Training Systems Division (NAWCTSD), April- June 2001

Air Force/Summer Faculty Fellowship, Wright Patterson AFB, Dayton, OH, July-August 2001

Air Force/Summer Faculty Fellowship, Wright Patterson AFB, Dayton, OH, May-August 2002

Air Force/Summer Faculty Fellowship, Wright Patterson AFB, Dayton, OH, May-August 2003

Summer Faculty Fellowship, Kennedy Space Center, NASA, June-August 2004

Summer Faculty Fellowship, Kennedy Space Center, NASA, June-August 2005

Air Force/Summer Faculty Fellowship, Wright Patterson AFB, Dayton, OH, May-August 2006

Air Force/Summer Faculty Fellowship, Eglin AFB, FL, May-August 2008

Summer Faculty Research Program, Structures and Composite (Code 652), Carderock Division, NSWC, July- August 2010

Summer Faculty Research Program, Structures and Composite (Code 652), Carderock Division, NSWC, July- August 2011

Air Force/Summer Faculty Fellowship, Eglin AFB, FL, worked at University of Colorado at Boulder, June-August 2012

Air Force/Summer Faculty Fellowship, Eglin AFB, FL, June-August 2013

SKILLS

Proficient on FORTRAN, C, and Assembly programming languages (Microchip, Motorola, Intel); experienced on signal processing, time series analysis, neural network applications, instrumentation, automatic data acquisition, robotics, CNC machines and machine vision.

UNIVERSITY SERVICE(Current and past)

- Member of Faculty Senate
- Chair of Faculty Council of Engineering and Computing
- Member of Faculty Council of Engineering and Computing
- Chair of Faculty Council of Engineering and Computing
- Member of the Executive Committee of the UFF
- Member of Faculty Senate Steering Committee
- Member of Faculty Senate Research One Committee
- Member of the College of Engineering and Design Library Committee
- Member of the Strategic Computer Planning Committee
- Faculty Adviser of SAE Student Chapter
- Faculty Adviser of SME Student Chapter
- Member of Departmental Safety Committee at Tufts University (1986-1990)
- Member of the University Committee on Student Life at Tufts University (1988)

PROFESSIONAL ACTIVITIES

- Reviewer for journals (including *Journal of Manufacturing Science and Engineering*, *Transactions of the ASME*, *International Journal of Smart Engineering System Design*, *Robotics and Computer Integrated Manufacturing*, *IEEE/ASME Transactions on Mechatronics*).
- Member of International Committee of International Conference on Advances in Production and Processing of Aluminum APPA'2001, 2005.
- Member of the Education and Public Relation Committees of the International Association of Science and Technology for Development (previously)

MEMBERSHIPS

Member of the following organizations at various periods:

- Sigma Xi Scientific Research Society
- Society of Manufacturing Engineers
- American Society of Mechanical Engineers
- International Association of Science and Technology for Development

HOBBIES

- Amateur Radio (Call Sign: KD4JUO)
- Rowing, Boating, Chess, Canoeing, Swimming, Fishing.