

RESUME  
**EROL SANCAKTAR**

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**PRESENT POSITION:**

Professor, Department of Polymer Engineering,  
Professor, Department of Mechanical Engineering,  
The University of Akron, Akron, OH 44325-0301

**PERSONAL DATA:**

Citizenship: United States of America  
Married, two children

**EDUCATION:**

Ph.D. Engineering Mechanics, August 1979, Virginia Polytechnic Institute and State University (VPI & SU)

Dissertation: The Viscoelastic Shear Behavior of a Structural Adhesive

M.S. Mechanical Engineering, August 1975, Virginia Polytechnic Institute and State University

Thesis: The Effect of Geometric Changes Due to Contamination on  
Fluid Amplifier Performance

B.S. Mechanical Engineering, June 1974 (with honors), Robert College (now Bosphorus University), Istanbul, Turkey

## **RESEARCH INTERESTS:**

Mechanical behavior of adhesives, polymers, composites; materials characterization; viscoelasticity; fracture mechanics; experimental and theoretical solid mechanics; design and manufacture with novel materials; excimer laser applications in polymers, for adhesion enhancement, process evaluation and nanopatterning; electrically conductive adhesives and polymers; nanoprocessing, nanocomposites and nanodevices.

## **EMPLOYMENT AND POSITIONS HELD:**

Professor, Department of Polymer Engineering, The University of Akron, Akron, OH, January 1996 to present.

Adjunct Professor, Mechanical Engineering Dept., The University of Akron, Akron, OH, October 2003 to present.

Guest Professor, Shenyang Jianzhu University, China. Appointed by the President of the University, 2005-2008.

Visiting Professor, Hiroshima University, Hiroshima, Japan, November 1 – December 5, 2006.

Visiting Professor, Yeditepe University, Istanbul, Turkey, September 18 – October 18, 2006.

Granted Permanent Tenure at University of Akron, April 2002.

Adjunct Professor, Mechanical and Aeronautical Engineering Dept., Clarkson University, Potsdam, N.Y., 1996 to 2001.

Associate Professor, Mechanical and Aeronautical Engineering Dept., Clarkson University, Potsdam, N.Y., July 1984 to 1995.

Summer Associate, U.S. Army Summer Faculty Research and Engineering Program, Benet Laboratories, Watervliet Arsenal, Watervliet, NY. Summer 1991.

Visiting Scholar, the Kendall Company, Lexington Research Laboratory, Lexington, MA (on sabbatical leave from Clarkson University) August 1985 to August 1986.

Granted Permanent Tenure at Clarkson University, January 1985.

Assistant Professor, Mechanical and Industrial Engineering Dept., Clarkson University, Potsdam, N.Y., Sept. 1979 to June 1984.

Instructor, Mechanical and Industrial Engineering Dept., Clarkson College of Technology, Potsdam, N.Y., Sept. 1978 to August 1979.

Instructor, Engineering Science and Mechanics Dept., Virginia Polytechnic Institute and State University, Blacksburg, VA, Sept. 1977 to August 1978.

Research Associate, Engineering Science and Mechanics Dept., Virginia Polytechnic Institute and State University, Blacksburg, VA, Sept. 1976 to March 1977.

Research Associate, NASA Langley Research Center, Hampton, VA, June 1976 to Sept. 1976.

Trainee Engineer, Chrysler Corporation, Istanbul, Turkey, summers of 1972 and 1973.

Research Assistant, Engineering Science and Mechanics Dept., Virginia Polytechnic Institute and State University, Blacksburg, VA, Sept. 1975 to June 1976 and March 1977 to August 1977.

Research Assistant, Mechanical Engineering Dept., Virginia Polytechnic Institute and State University, Blacksburg, VA, Sept. 1974 to August 1975.

Teaching Assistant, Mechanical Engineering Dept., Robert College, Istanbul, Turkey, 1973-1974.

Teaching Assistant, Physics Dept., Robert College, Istanbul, Turkey, 1971-1974.

## **HONORS AND AWARDS::**

Fellow, ASME International, elected September 1997.

## **TEACHING ACTIVITIES:**

**Courses Taught** (at VPI & SU, Clarkson, and Akron, **overall total is 34**):

\*Indicates a new course introduced.

### **Freshmen Level**

1. ES 111 Introduction to Engineering

### **Sophomore Level**

2. ES 223 Rigid Body Dynamics
3. \*PE 9821-281 Polymer Science for Engineers

### **Junior Level**

4. PE 9841-321 Polymeric Fluid Mechanics
5. ES 330 Fluid Mechanics

6. ME 341 Machine Design I
7. \*ME 351 (ES 3060) Materials Testing
8. ME 365 Independent Projects (5)
9. ME 370 Mechanical Engineering Laboratory
10. ME 391 Material Selection
- Senior Level**
11. \*ES 440 Adhesion Science and Technology
12. ME 442 Machine Design II (taught as three credit design course with extensive project work)
13. ME 445 Integrated Design
14. PE 9841-450 Engineering Properties of Polymers
15. PE 9841-451 Polymer Engineering Laboratory
16. ME 452/CE 430 Advanced Strength of Materials
17. \*ME 457 Mechanics of Composite Materials
18. ME 459 Experimental Stress Analysis
19. ME 465 Independent Projects (2)
20. PE 9841-497 Honors Project
21. PE 9841-499 Polymer Engineering Project
- Graduate Level**
22. ME 504 Design Methodology (also taught to engineers from industry as 5 weeks graduate course)
23. PE 9841-550 Engineering Properties of Polymers
24. ME 554/CE 555 Continuum Mechanics
25. \*ME 557 Advanced Mechanics of Composite Materials
26. ME 591 Selected Topics in Materials Engineering
27. PE 9841-631 Engineering Properties of Solid Polymers.
28. \*PE 9841- 650 Introduction to Polymer Engineering (Taught as part of a team of four faculty members)
29. \*ME 656 Viscoelasticity
30. ME 657 Selected Topics in Solid Mechanics
31. PE 9841-641 Polymeric Materials Engineering Science
32. PE 9841-651 Polymer Engineering Laboratory
33. PE 9841-731 Stress Analysis of Polymers and Composites
34. \*PE 9841-797 Advanced Topics: Design of Adhesive and Composite Joints

The average number of (3 credits, in-class) courses I taught at Clarkson during Fall 1978 to Summer 1994 is 5.1 courses per calendar year.

The average number of courses I taught at University of Akron during Spring 1996 to present is 2 courses per calendar year.

My teaching evaluations average is equal to the Clarkson Engineering School average for the period 1978 to 1995.

I taught ME 442 Machine Design (Clarkson) as a 3-credit design course with creative project (11 sections taught).

I emphasized the experiential learning process.

Among some of the teaching innovations and improvements I implemented are the following: I obtained state of the art software packages which perform feasibility and optimization analysis for composite materials with respect to constituent (i.e. fiber and matrix) and lay-up (i.e. fiber angle w.r.t. loading axes) selection. I used these programs in ME 457, Mechanics of Composite Materials course, which I introduced. I used this software not only to support the basic composites knowledge conveyed in the course but also for design project purposes. Many students involved in car projects including the Solar Car, Mini Baja, and the Mini Indy utilized this software while they were taking my course and implemented actual parts for their car projects. Other students utilized the course and the software to implement their own design ideas such as canoe paddles, fishing poles etc. I believe the availability of these programs to the students greatly improved the quality and efficiency of the course while exposing them to the type of software packages they are likely to use in their future career.

Student acknowledgment of my efforts in improved teaching are evident with their comments such as "good, clear", "easy to follow and understand, interesting, personable", "excellent", "great job", "overall fantastic", "very accessible to students, and is very concerned with his teaching", "good teaching", "He knows the subject and how to present the material", "good instructor", "I learned alot", "great project", "Outstanding. Very helpful with individual problems of the course material. The best professor I have had at Clarkson", "Clear concise and to the point. He is enthusiastic about the subject and it shows in his teaching. He actually cares about his students", "enjoyed him as a teacher", "Very interesting and nicely presented. I'd enjoy more courses taught by you", "Class was always interesting and educational", "Always welcomes student for any help outside the class. Well prepared", each written by a different student on teaching evaluation forms at Clarkson University. More than 30 such forms are available in files at Clarkson.

## **OTHER PROFESSIONAL ACTIVITIES:**

### **Editorial Activities**

#### ***Editorial Advisory Board Memberships:***

Journal of Adhesion Science and Technology (1993- Present).

Recent Patents on Chemical Engineering (2007- Present).

International Journal of Polymer Science (2008- Present).

#### ***Associate Technical Editorships:***

Transactions of the ASME, Journal of Mechanical Design (1995 – 1998); (2003 – 2006).

Transactions of the ASME, Journal of Medical Devices (2006 – present).

**Technical Conference and Session Chairmanship, and Organizational Service (Overall total is 66 Sessions, 28 Symposia)**

Session Co-chair, Electromagnetic Materials and Composites, ASME IMECE'94.

Session Chair, Designing for Safety, 1994 ASME Design Engineering Conference and Show.

Session Chair, Issues in Design Methodology and Reliability, ASME IMECE'95.

Session Chair, Electrically Conductive Adhesives, Adhesive Joints, ASME IMECE'95.

Session Co-chair, Application of FEA for RSAFP, ASME IMECE'95.

Session Co-chair, Emerging Issues in Fastening and Joining, ASME IMECE'96.

Session Co-chair, RSAFP Issues in Reliability and Risk Minimization, ASME IMECE'96.

Session Co-chair, Emerging Technologies and Materials, Some RSAFP Issues, ASME IMECE'96.

Session Chair, Composites Design, ASME IMECE'97.

Session Co-Chair, Adhesive Joining, ASME IMECE'97.

Session Chair, Smart Materials, Adaptive Systems, ASME IMECE'97.

Session Chair, Adhesive Joints, ASME IMECE'98.

Session Chair, Bolted, and Welded Joints, ASME IMECE'98.

Session Co-Chair, Design, Durability, and Adhesion of Rubber Components, and Springs, ASME IMECE'98.

Session Co-Chair, Viscoelastic Properties, IEEE Adhesives in Electronics'98.

Session Chair, Adhesive and Bolted Connections, ASME IMECE'99.

Session Chair, Adhesive and Bolted Connections, ASME IMECE'99.

Session Chair, Bolted Connections, ASME IMECE'99.

Session Co-Chair, Adhesive Joining, ASME IMECE'99.

Session Chair, Failure Prevention, 2000 ASME International DETC/CIE.

Session Co-Chair, Reliability, 2000 ASME International DETC/CIE.

Program Chair/Organizer, 14<sup>th</sup> Reliability, Stress Analysis, and Failure Prevention Conference, 2000 ASME International DETC/CIE.

Session Chair, Adhesive Joints, ASME IMECE 2000.

Session Chair, Adhesive and Bolted Connections, ASME IMECE 2000.

Session Co-Chair, Adhesive and Bolted Connections, ASME IMECE 2000.

Session Chair, Bolted and Riveted Connections, ASME IMECE'01.

Session Chair, Adhesive Joints, ASME IMECE'01.

Session Chair, General RSAFP and Design Problems, ASME IMECE'01.

Session Co-Chair, Composite Materials and Components, ASME IMECE'01.

Session Chair, Bonding with Multiple or Discontinuous Adhesive Layers, ASME IMECE'02.

Session Chair, Bolted and Bolt/Adhesive Combination Joints, ASME IMECE'02.

Session Chair, Stress Analysis of Butt and Scarf Interfaces, ASME IMECE'02.

Session Chair, Reliability and Stress Analysis, ASME IMECE'02.

Organizer, Mini-Symposium at 2<sup>nd</sup> Canadian Conference on Nonlinear Solid Mechanics, "Non-linear Behavior with Polymers and their Composites" (Vancouver, 2002).

Session Chair, Adhesive Joints, ASME DETC/CIE'03.

Session Chair, Current Issues in Reliability, Stress Analysis, and Failure Prevention, ASME DETC/CIE'03.

Session Chair, Reliability, Stress Analysis, and Failure Prevention Issues in Design, ASME DETC/CIE'03.

Session Chair, RSAFP Issues in Adhesive Joints, ASME IMECE'03.

Session Chair, RSAFP Methodology Issues, ASME IMECE'03.

Session Chair, Material Related RSAFP Issues, ASME IMECE'03.

Session Chair, RSAFP Issues in Bolted Joints, ASME IMECE'03.

Session Chair, Adhesion and Adhesives, PPS-20, 2004.

Organizing Committee Member (sponsorship) PPS-20, June 20-24, 2004, Akron, OH.

Session Co-chair, Material Properties, Modeling, and Development III, IEEE Polytronic 2004.

Session Chair, Reliability, Stress Analysis, and Failure Prevention-I, ASME IMECE'04.

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Session Chair, Reliability, Stress Analysis, and Failure Prevention-II, ASME IMECE'04.

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Session Chair, Reliability, Stress Analysis, and Failure Prevention-III, ASME IMECE'04.

Session Chair, Reliability, Stress Analysis, and Failure Prevention-IV, ASME IMECE'04.

Session Chair, Reliability, Stress Analysis, and Failure Prevention-V, ASME IMECE'04.

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International Program Committee Member, Polytronic 2004: 4th International IEEE Conference on Polymers and Adhesives in Microelectronics and Photonics.

Session Chair, Reliability, Failure Prediction, ASME DETC/CIE'05.

Session Chair, Design Methodology, ASME DETC/CIE'05.

Session Chair, Material Considerations, ASME DETC/CIE'05.

Session Chair, Stress Analysis, ASME DETC/CIE'05.

Session Chair, Bolted or Welded Joints, ASME DETC/CIE'05.

Session Chair, RSAFP Issues in Composites, ASME IMECE'05.

Session Chair, RSAFP Issues in Welded or Threaded Joints, ASME IMECE'05.

Session Chair, RSAFP Issues in Adhesives and Adhesively Bonded Joints, ASME IMECE'05.

Session Chair, RSAFP Issues in Design Methodology, ASME IMECE'05.

Session Chair, Stress Analysis Cases I, ASME IMECE'05.

Session Chair, Stress Analysis Cases II, ASME IMECE'05.

Session Chair, Strength and Failure Analyses, ASME IMECE'05.

Organizer, "Workshop on Advanced Materials and Materials Processing" Yeditepe University, Mavi Salon, Istanbul, Turkey, October 13, 2006. This unique Workshop, related to Advanced Materials and Materials Processing and involved seven papers by eleven researchers from six different universities. It had significant attendance by the members of Industrial and Research establishments in Istanbul, in addition to the attendance by the faculty, research staff and students of Yeditepe, Sabanci, Bogazici and Istanbul Technical Universities.

Session Chair, RSAFP Considerations in Design Process, ASME IMECE'07.

Session Chair, Material Considerations for RSAFP, ASME IMECE'07.

Session Chair, Stress and Failure Analysis and Modeling, ASME IMECE'07.

Session Chair, Computer-Based (Numerical/FEA etc.) Analyses for RSAFP, ASME IMECE'07.

Scientific Committee Member, ACE-X 2008, 2009, International Conferences on Advanced Computational Engineering and Experimenting; July 14-15, 2008 Barcelona, Spain, June 22-23, Rome, Italy.

Organizer, Nanoscience/Nanotechnology Workshop at NanoTR4", funded by NSF, June 2008 – May 2009, Istanbul Turkey.

Session Chair, Micro/Nano Composites, IMECE'08.

Session Chair, Advances in Bonding and Joining Technologies, Poster Session, IMECE'08.

Session Chair, Welding and Weldability of Metals, IMECE'08.

Session Chair, Adhesively Bonded and Bolted Joints, IMECE'08.

Program Organizer, Reliability, Stress Analysis and, Failure Prevention Symposia for the 1994, 1995, 1996, 1997, 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008 and 2009 ASME International Mechanical Engineering Congress and Expositions (IMECE), 2003, 2005, 2007, 2009 Design Engineering Technical Conferences (DETC).

### **Short Courses Taught**

Mechanical Modeling, Testing, and Durability of Electronically Conductive Adhesives; Taught during Adhesives in Electronics'98 Conference at Binghamton, NY, Sept. 27, 1998 (with S. Liu).

### **Invited Panel Participation**

Review Panel for EPA SBIR: Phase I: Innovation in Manufacturing, Aug. 20-21 2008.

Review Panel for EPA SBIR Phase I: Engine and Vehicle Emissions Reduction, Sept. 18-20 2007.

Review Panel for an EPA Line Item Center, April 8, 2005.

Review Panel for the 2005 EPA Science to Achieve Results Research STAR Graduate Fellowship Program, March 1-2, 2005.

Review Panel for an EPA Line Item Center, Feb.22, 2005.

Review Panel for the 2004 EPA Science to Achieve Results Research STAR Graduate Fellowship Program, Feb. 22, 2004.

Environmental Engineering Peer Review Panel for the 1998 EPA Science to Achieve Results Research (STAR) Grants Program, June 22-25, 1998.

NSF Panelist, Durability of Polymers and Polymer Composites, May 14, 1998.

Member, Materials Science Panel, National Defense Science and Engineering Graduate Fellowship Program (1994, 1995).

Member, International Advisory Board, International Congress on Adhesion Science and Technology 1995.

### **Professional Society Membership and Technical Reviewer Activities**

Member, American Society of Mechanical Engineers.

Elected Chair, for ASME Reliability Stress Analysis and Failure Prevention Technical Committee (1997 - 2008).

Paper Reviewer for ASME, ASTM, J. Adhesion, J. Adhesion Sci. & Tech., Int. J. Solids & Struct., IEEE, Polymer, Wiley Publishers, J. Thermoplastic Composite Materials, J. Applied Polymer Science, International Polymer Processing, Modelling and Simulation, J. Mechanical Design, VSP Publishers, Int. J. Adhesion & Adhesives, J. Applied Mechanics.

Proposal Reviewer for NSF, The National Academies.

Book Reviewer for McGraw-Hill, Marcel Dekker.

### **Departmental and University Committee Activities**

#### **I) At University of Akron**

Faculty Senate (elected member)

Mechanical-Polymer Engineering ABET Committee Representative.

H. A. Morton Visiting Professor Committee, 2003 – present.

Departmental Student Application Evaluation Committee, 1999 – present.

The Graduate Council, 2003 to present (Vice-chair, 2005).

University Graduate Faculty Membership Committee of Graduate Council, 2002 to 2004.

University Curriculum Committee, 2000-02.

Advisory Committee to the President, member, 2001-2002.

Distinguished Professor Selection Committee, 1997.

University Well Being Committee, 1997-99.

Mechanical-Polymer Engineering Committee, member, 1996 to present.

Advisory Committee to the Provost, member, 1996-97.

Departmental Faculty Search Committee, chair, 1996-97 (one hire).

Departmental Seminar Course 9841-601, organizer, Fall 1996, Fall 2001.

#### **II) At Clarkson University**

Departmental Laboratory Director, in charge of the laboratory budget, Jan. 1984, August 1985. Accomplished the reorganization of the Clarkson University's MIE Department's instructional laboratory for the 1984 ABET accreditation process. This effort included the purchase of approximately \$100,000 worth of laboratory equipment, and preparation of student laboratory procedures for many experiments.

Departmental Library Representative, in charge of the library budget, 1978 to 1985.

Departmental Transfer Student Evaluator, 1978 to 1995.

Seminar coordinator in charge of the seminar budget for the Clarkson Solid Mechanics and Materials Processing/Manufacturing Engineering Groups 1985-86 and, the Mechanical and Industrial (Aeronautical) Engineering Department, Fall 1988, 1991-1992, Fall 1993, Spring 1994.

Departmental Faculty Search and Professional Development Committee member, 1986 to 1991, 1993-1994 Academic Year.

Departmental Graduate Committee member (in charge of final evaluations of all Solid Mechanics graduate student applications), 1986 to 1995.

University Curriculum and Academic Policies Committee member, 1992 to 1995 (elected Chairman for the Committee, 1995).

## **RECOGNITIONS:**

Who's Who in America 52<sup>nd</sup> edition (1998), 53<sup>rd</sup> edition (1999), 57<sup>th</sup> edition (2003), 58<sup>th</sup> edition (2004), 60<sup>th</sup> edition (2006), 62<sup>nd</sup> edition (2008), 63<sup>rd</sup> edition (2009).

Who's Who in the World, 7<sup>th</sup> edition (1984), 12<sup>th</sup> edition (1995), 22<sup>nd</sup> edition (2005), 23<sup>rd</sup> edition (2006), 24<sup>th</sup> edition (2007), 25<sup>th</sup> edition (2008), 26<sup>th</sup> edition (2009).

Who's Who in Science and Engineering 2<sup>nd</sup> edition (1993-1994), 3<sup>rd</sup> edition (1995-1996), 4<sup>th</sup> edition (1997-1998), 5<sup>th</sup> edition (1999-2000), 7<sup>th</sup> edition (2003-2004), 8<sup>th</sup> edition (2005-2006), 10<sup>th</sup> edition (2008-2009).

Who's Who in American Education 1<sup>st</sup> edition (1988-1989), 3<sup>rd</sup> edition (1992-1993), 6<sup>th</sup> edition (2004-2005), 8<sup>th</sup> edition (2007-2008).

Who's Who among American Teachers and Educators (2006-2007).

American Men and Women of Science (1998).

Who's Who in the East 26<sup>th</sup> edition (1996).

Who's Who in the Midwest 25<sup>th</sup> edition (1996).

Who's Who in Finance and Business 29<sup>th</sup> edition (1994-1995), 35<sup>th</sup> edition (2006-2007), 36<sup>th</sup> edition (2008-2009).

Two Thousand Notable American Men (1992, 1994).

Who's Who Among Rising Young Americans (1990).

Who's Who in Frontier Science and Technology, 1st edition (1984).

The Adhesive and Sealant Council Directory of Researchers and Research Programs.

Adhesives Age Directory of Research Programs.

Sigma Xi, The Scientific Research Society of North America, Virginia Polytechnic Institute Chapter, elected full member.

#### **RECOGNITIONS OF GRADUATE STUDENTS:**

Pavel Paramonov (Ph.D.) (Dr. S. Lyuksyutov, Physics Department, co-advisor) won "University of Akron Outstanding Research Award" (2004), and Omnova Solutions Inc. "Signature University Award" (2005).

Dae-Up Ahn (Ph.D.) "Honorable Mention" for research poster at Polymer Engineering Sponsor's and Alumni Day, Polymer Processing Hall of Fame (2005).

Kim, Jongdae (Ph.D.) Omnova Solutions Inc. won "Intern Fellowship" award (2002-2003).

Sean Simmons (M.S.) won "John R. Mann Award" at University of Akron (1998).

Yong Wei (Ph.D.) won an "ISHM Educational Foundation Research Grant" (1994-1995).

Joseph Baldwin (M.S.) won the "First Place Award" in AIAA 1986 National Graduate Student Competition.

#### **RESEARCH AND GRANT SUPPORT:**

***Funded Research (In excess of \$1.5M, 34 projects include 6 NSF grants (Nbs. 34, 32, 23, 22, 8, 2) and 2 Teaching Grants (Nbs. 26, 20)):***

The cited "dollar amount funded" is the research budget for which Dr. Sancaktar is responsible and is the total amount for the project unless indicated otherwise.

34. "Nanoscience/Nanotechnology Workshop at NanoTR4", funded by NSF, June 2008 – May 2009, \$46,000 (\$4,000 in cost share from Univ. of Akron).
33. "Unrestricted Research Grant" funded by T. Kobayashi, Dr. Eng., Japan, Jan., 2006 – Jan. 2009, \$5,000.
32. "Acquisition of a Nanoindentation System for Nanocomposite and Advanced Materials Research and Education." (PI: S.-C. Josh Wong, Co-PIs: S. Jana, Y. Qiao, and E. Sancaktar) funded by NSF, September 2005 - September 2006, \$244,645.
31. "Gas Service Line Riser Removal, Testing and Evaluation Protocol Development and Consultation" (PI: E. Sancaktar, Co-PI: C. Batur) funded by the Public Utilities Commission of Ohio, May, 2005 – July, 2006, \$67,530.
30. "Unrestricted Research Grant" funded by Sturtz Machinery, Inc., April, 2005 – April 2007, \$8,000.
29. "Unrestricted Research Grant" funded by Akron Rubber Development Laboratory, Inc., April, 2004 – April 2007, \$5,000.
28. "Bonded Reinforcement Optimization for Porous Stone Plates" funded by Technograniti, November 2002 – August 2003, \$29,838.
27. "Design, Progressive Modeling, Manufacture, and Testing of Composite Shield for Turbine Engine Blade Containment" (Principal Investigators, E. Sancaktar, W. Binienda) funded by NASA Glenn Research Center, November 1999 to November 2001, \$363,515 (Budget for E. Sancaktar \$208,660).
26. "Acquisition of Designsafe Software to Incorporate Safety, Health, and Environmental Concerns in Capstone Engineering Design Courses" funded by the National Safety Council-Institute for Safety Through Design, February 2000 to February 2001, \$5,250 (with C. Batur, J. Gerhardt, and Y. -J. Lin)
25. "Design, Progressive Modeling, Manufacture and Testing of Complex Composite Components by Filament Winding" funded by the Ohio Board of Regents through the University of Akron, November 1999 to November 2002, \$20,000.
24. "Modeling Fatigue Behavior of Electronically Conductive-filled Adhesives" funded by the Hutchinson Technology Inc., August 1999 to August 2000, \$55,671.
23. "Free and Forced Vibrational Analysis of Cylindrical and Non-Cylindrical Helical Coil Springs Made of Composite Materials" funded by the NSF, September 1998 to August 2001, \$31,000.

22. "Acquisition of a Pulse Excimer Laser for Polymer Engineering and Crystal Growth Research" (Co-principal investigators: Dr. J. L. White, Dr. C. Batur) funded by the NSF, October 1997 to October 1999, \$204,093 (\$61,228 in cost share from Univ. of Akron).
21. Ultrasonic Welder, 920IW, Donation, Branson Ultrasonics Corp., Sept. 1997. \$15,000.
20. "Learning Modules Development for Adhesive Joining" funded by the Ohio State University / NEMJET program, March 1996 to November 1996, \$36,001 (\$13,817 in cost share from Univ. of Akron).
19. Start-up funding by the College of Polymer Science and Polymer Engineering at the University of Akron, Jan. 1996, \$60,000.
18. "Directional Electric Conduction in Particle Filled (Z-axis) Adhesive Films" (Co-principal Investigators: Dr. E. Matijevic', Dr. R. Partch) funded by the New York State Science and Technology Foundation through the Center for Advanced Materials Processing at Clarkson, July 1995 to July 1996, \$27,000.
17. "Electronically Conductive Adhesives for Connecting Leads to Electronic Circuits and/or Conducting Film Application" (with doctoral student Y. Wei) funded by the International Society for Hybrid Microelectronics, Sept. 1994 to Sept. 1995, \$6,000.
16. "Preparation and Characterization of Durably Conducting Particle Filled Adhesives" (Co-Principal Investigators: Dr. E. Matijevic', Dr. R. Partch) funded by the New York State Science and Technology Foundation through the Center for Advanced Materials Processing at Clarkson, July 1994 to July 1995, \$25,000.
15. "Laser Ablation of Metal Substrate Surfaces for Improved Adhesion to Polymer Films" (Co-Principal Investigator: Dr. S. V. Babu) funded by the New York State Science and Technology Foundation through the Center for Advanced Materials Processing at Clarkson, July 1993 to July 1994, \$32,646.
14. "Design of Composite M198 Howitzer Trails" funded by the U.S. Army, Jan. 1993 to Oct. 1994, \$14,720.
13. "Development of Durable Electronically Conductive Adhesives," funded by the IBM Corporation, June 1992 to Aug. 1993, \$25,000.
12. "Laser Ablation of Metal Substrate Surfaces for Improved Adhesion to Polymer Films" (Co-Principal Investigator: Dr. S. V. Babu) funded by the New York State Science and Technology Foundation through the Center for Advanced Materials Processing at Clarkson, July 1992 to July 1993, \$36,037.

11. "Optimization of Carbon Fiber Bonding to High Performance Thermoplastic Polymer Materials," (Co-Principal Investigator: Dr. G. Campbell) funded by the Grumman Corporation, May 1986 to Dec. 1989, \$105,000/2.
10. "Optimization of Carbon Fiber Bonding to High Performance Thermoplastic polymer Materials," (Co-Principal Investigator: Dr. G. Campbell) funded by the New York State Science and Technology Foundation through the Center for Advanced Materials Processing at Clarkson, May 1986 to Dec. 1987, \$25,000/2.
9. "Kendall-Clarkson Cooperative Project", funded by the Kendall Company, 1986, \$12,876.
8. "Mixed Mode Fracture in Adhesively Bonded Joints with Attention to Crack Closure," funded by NSF, Dec. 1984 to June 1987, \$87,158.
7. "The Effects of Molecular Weight on the Single Lap Shear Creep and Constant Strain Rate Behavior of a Thermoplastic Adhesive," supported by NASA Langley Research Center, Oct. 1983 to Oct. 1984, \$9,093.
6. "Material Characterization of Structural Adhesives in the Lap Shear Mode," funded by NASA Langley Research Center, June 1982 to Oct. 1983, \$20,000.
5. "Creep Evaluation of Novel Thermoplastics," funded by the General Electric Co., Feb. 1982 to Dec. 1982, \$5,000.
4. "Purchase of Instron Model 1331 Servohydraulic Testing Machine. Funding by Clarkson College of Technology, 1982, \$38,600.
3. "A Photoelastic Verification of the Correspondence Principle with Viscoelastic Plates," funded by Clarkson College of Technology Research Award 1981, \$4,900.
2. "The Effects of Cure Temperature and Time on the Strain Energy Release Rate and Bulk Tensile Properties of a Structural Adhesive," funded by the NSF under Research Initiation Program, May 1980 to Nov. 1983, \$36,016.
1. "The Effects of Cure Temperature and Time on the Strain Energy Release Rate and Bulk Tensile Properties of a Structural Adhesive," funded by Clarkson College of Technology Research Award, 1980, \$4,905.

*Teaching and Curriculum Proposals Prepared as Principal Investigator, but not Funded:*

"Research Experience Based Curriculum Development in Polymer Based Nanocomposites" (with L. Goettler, J. Hirschbuhl, S. Jana, and D. Reneker), 2001- 2004, \$498,991, declined by NSF.

"IGERT: Molecules to Machines" (with W. J. Brittain, Y.-J. Lin, D. H. Reneker, and J. L. White), 1998-2003, \$2,403,340, declined by NSF.

“Development of Polymer Engineering Undergraduate Course Curriculum in Support of Mechanical Polymer Engineering Baccalaureate Degree Program” (with J. Padovan), 1996-2000, \$572,688, declined by NSF.

### **CONSULTING:**

Numerous one-day consulting trips to industrial and government establishments are not listed.

Total consulting and related expenditure payments to date to Dr. E. Sancaktar are in excess of \$150K.

Kuwait University, January 2006 to present (per work order).  
Involves research proposal evaluation.

John E. Duda, Attorney at Law, May – November, 2006.  
Involved expert evaluation and consulting for polymer related litigation.

Winslow LifeRaft Company, Lake Suzy, FL, May – September, 2006 (per work order).  
Involved evaluation and solution of customer problems.

Akron Rubber Development Laboratory Inc. (ARDL), Akron, OH, July 2002 to December 2005 (contractual).  
Consultant on Phases I and II of SBIR Project Entitled  
“Supportable Sandwich Control Surfaces” under Topic Nb. AF02 247.

Herman Miller Inc., Zeeland, MI, June – Sept. 2004 (per work order).  
Involved process evaluation and optimization for injection molding of thermoplastic polyurethane parts.

Eveready Battery Company Inc., Cleveland, OH, August 21-22, 2000 (contractual).  
Involved idea generation with participation in "ideation" sessions.

National Renewable Energy Laboratory (NREL), July-Sept. 1999  
(contractual through Dr. B. Brittain). Involves adhesion, adhesives, joining, design, structural, and manufacturing issues related to plastics applications in passive solar heaters.

U.S. Army Benet Laboratories, Watervliet, NY, May 1991 to October 1994 (contractual). Involved design and manufacture of composite material components for the Advanced Tank and Cannon System. Performed stress-strain and failure analysis for such composite components. Also performed general mechanical and failure analysis for various integral components of Advanced Tank and Cannon System.

Kendall Company, Lexington Research Laboratory, Lexington, MA, 1984 to 1991  
(contractual). Involved research and development, testing and evaluation

of: pressure sensitive adhesive tape products including medical products, composite materials, development of visible light curing adhesives and, stress analysis for in-situ application of these products.

Aluminum Company of America (ALCOA), July 1990 to April 1991 (contractual). Involved instrumentation and evaluation of the platen for 5300 tons extrusion press for the state of stress and fracture repairs.

United Nations Development Program (TOKTEN), July 14-31, 1987 (contractual). Involved short-term consultations with various industrial establishments, which are involved in manufacturing and use of adhesive products in Turkey. These companies included major international construction and engineering corporations such as ENKA Group, TEKFEN Construction and Installation Co. etc. Seminar and consultation activities were also performed at three major Turkish Universities including Bosphorus University (Istanbul), Middle East Technical University (Ankara) and Karadeniz Technical University (Trabzon).

Zinc Corporation of America, Balmat, NY, Dec. 1988 - Jan. 1989 (per work order). Involved testing and evaluation of one-inch diameter high strength (up to 131,000 lb.) industrial bolts.

Champion International Corp., Deferiet, NY, June 1989 (per work order).  
Involved testing and evaluation of high capacity composite V-belts.

PATENTS (Nbs.1-3 assigned to the Kendall Co. Boston, Massachusetts):

3. "Tapered Roofing Tape " United States Patent No. 4,965,119 Oct. 23, 1990.
2. "Tapered Roofing Membrane " United States Patent No. 4,910,059 March 20, 1990.
1. "Tapered Adhesive Tape " United States Patent No. 4,806,400 Feb. 21, 1989.

**PUBLICATIONS (Overall total is 223):**

**Books Edited**

21. Processing and Engineering Applications of Novel Materials section in ASME IMECE 2008 Proceedings CD-ROM, ASME Book No. I807DV, ISBN 978-0-7918-3840-2, ASME New York (2008).

20. Reliability, Stress Analysis, and Failure Prevention, section in ASME IMECE 2007 Proceedings CD-ROM, ASME Book No. I779DV, ISBN 0791838129, ASME New York (2007).

19. 19<sup>th</sup> Reliability, Stress Analysis, and Failure Prevention Conference, section in ASME DETC 2007 Proceedings CD-ROM, ASME Book No. I773DV, ISBN 0-7918-3806-4, ASME New York (2007).
18. Reliability, Stress Analysis, and Failure Prevention, section in ASME IMECE 2006 Proceedings CD-ROM, ASME Book No. I757DV, ISBN 0-7918-3790-4, ASME New York (2006).
17. Reliability, Stress Analysis, and Failure Prevention, section in ASME IMECE 2005 Proceedings CD-ROM, ASME Book No. I0736D, ISBN 0-7918-3769-6, ASME New York (2005).
16. 18<sup>th</sup> Reliability, Stress Analysis, and Failure Prevention Conference, section in ASME DETC 2005 Proceedings CD-ROM, ASME Book No. I733D2, ISBN 0-7918-3766-1, ASME New York (2005).
15. Reliability, Stress Analysis, and Failure Prevention, section in ASME IMECE 2004 Proceedings CD-ROM, Vol. 2, ASME Book No. G1223D, ISBN 0-7918-4179-0, ASME New York (2004).
14. Failure Analysis/Prevention, Reliability Issues, section in ASME IMECE 2003 Proceedings CD-ROM, Vol. 2, ASME Book No. H1251D, ISBN 0-7918-4664-4, ASME New York (2003).
13. 17<sup>th</sup> Reliability, Stress Analysis, and Failure Prevention Conference, section in ASME DETC 2003 Proceedings CD-ROM, ASME Book No. I668CD, ISBN 0-7918-3698-3, ASME New York (2003).
12. Proceedings of the ASME Design Engineering Division-2002, ASME Book No. I00592, ISBN 0-7918-3628-2, ASME New York (2002) (with I. Haque, M. El Gindy, A. C. J. Luo and E. C. Feldy).
11. Reliability Stress Analysis, and Failure Prevention, section in ASME IMECE 2002 Proceedings CD-ROM, Vol. 2, ASME Book No. G1186D, ISBN 0-7918-1692-3, ASME New York (2002).
10. Threaded and Riveted Connections, Design Issues, Reliability, Stress Analysis, and Failure Prevention, section in ASME IMECE 2001 Proceedings CD-ROM, Vol. 2, ASME Book No. H1229D, ISBN 0-7918-1942-6, ASME New York (2001).
9. Threaded and Riveted Connections, Design Issues, Reliability, Stress Analysis, and Failure Prevention, ASME Book No. I00539, ISBN 0-7918-3571-5, ASME New York (2001).
8. Reliability, Stress Analysis, and Failure Prevention Issues, ASME Book No. H01219, ISBN 0-7918-1932-9, ASME New York (2000).

7. Reliability, Stress Analysis, and Failure Prevention Issues in Adhesive and Bolted Connections, Composite Components, ASME Book No. G01153, ISBN 0-7918-1659-1, ASME New York (1999).
6. Reliability, Stress Analysis, and Failure Prevention Aspects of Adhesive and Bolted Joints, Rubber Components, Composite Springs, ASME Book No. G01102, ISBN 0-7918-1607-9, ASME New York (1998).
5. Reliability, Stress Analysis, and Failure Prevention Issues in Adhesively Bonded and Bolted Joints, Composites Design, ASME Book No. HO1128, ISBN 0-7918-1847-0, ASME New York (1997).
4. Reliability, Stress Analysis, and Failure Prevention Issues in Fastening, Joining, Composite and Smart Structures, Numerical and FEA Methods, Risk Minimization, ASME Book No. G01041, ISBN 0-7918-1546-3, ASME New York (1996) (with S. Jahanian).
3. Reliability, Stress Analysis and Failure Prevention Issues in Emerging Technologies and Materials, ASME Book No. H01035, ISBN 0-7918-1763-6, ASME, New York (1995).
2. Guest Editor, Journal of Adhesion Science and Technology Special Issue: Fracture Aspects of Adhesive Joints Vol. 9, No. 2 (1995).
1. Reliability, Stress Analysis and Failure Prevention Aspects of Composite and Active Materials, ASME Book No. G00942, ISBN 0-7918-1447-5, ASME, New York (1994) (with J. S. Lee).

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79. Sancaktar, E. and Aussawasathien, D., “Nanocomposites of Epoxy with Electrospun Carbon Nanofibers: Mechanical Behavior” Journal of Adhesion (2009).
78. Sancaktar, E. and Ma, W., “Mathematical Assessment of the Effects of Parabolic and Spherical Surface Topographies on the Interfacial State of Stress” Journal of Adhesion (2009).
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66. Gomatam, R. and Sancaktar, E., “A Comprehensive Fatigue Life Predictive Model for Electronically Conductive Adhesive Joints under Constant-Cycle Loading” Journal of Adhesion Science and Technology 20, pp. 87-104 (2006).
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58. Gomatam, R. and Sancaktar, E., “The Interrelationships Between Electronically Conductive Adhesive Formulations, Substrate and Filler Surface Properties, and Joint Performance. Part I: The Effects of Adhesive Thickness” Journal of Adhesion Science and Technology 18, pp. 1225-1244 (2004).
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54. Lyuksyutov, S. F., Vaia, R. A., Paramonov, P. B., Juhl, S., Waterhouse, L., Ralich, R. M., Sigalov, G. and Sancaktar, E., “Electrostatic Nanolithography in Polymers Using Atomic Force Microscopy” Nature Materials 2, pp. 468-472 (2003).
53. Sancaktar, E. and Liu, C., “Use of Polymeric Emeraldine Salt for Conductive Adhesive Applications” Journal of Adhesion Science and Technology 17, pp. 1265-1282 (2003).

52. Ma, W., Gomatam, R. and Sancaktar, E., "A Novel Mathematical Procedure to Evaluate the Effects of Surface Topography on the Interfacial State of Stress. Part II. Verification of the Method for Scarf Interfaces" Journal of Adhesion Science and Technology 17, pp. 831-846 (2003).
51. Sancaktar, E. and Nirantar, P., "Increasing Strength of Single Lap Joints of Metal Adherends by Taper Minimization" Journal of Adhesion Science and Technology 17, pp. 655-675 (2003).
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49. Ma, W., Gomatam, R., Fong, R. and Sancaktar, E., "A Novel Mathematical Procedure to Evaluate the Effects of Surface Topography on the Interfacial State of Stress. Part I. Verification of the Method for Flat Surfaces" Journal of Adhesion Science and Technology 15, pp. 1533-1558 (2001).
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47. Sancaktar, E. and Simmons, S. R., "Optimization of Adhesively Bonded Single Lap Joints by Adherend Notching" Journal of Adhesion Science and Technology 14, pp. 1363-1404 (2000).
46. Sancaktar, E. and Kumar, S., "Selective Use of Rubber Toughening to Optimize Lap Joint Strength" Journal of Adhesion Science and Technology 14, pp. 1265-1296 (2000).
45. Yildirim, V., Sancaktar, E., "Linear Free Vibration Analysis of Cross-ply Laminated Cylindrical Helical Springs" International Journal of Mechanical Sciences 42, pp. 1153-1169 (2000).
44. Yildirim, V., Sancaktar, E., and Kiral, E., "The Effect of the Longitudinal to Transverse Moduli Ratio on the Natural Frequencies of Symmetric Cross-ply Laminated Cylindrical Helical Springs" Journal of Mechanical Design 121, pp. 634-639 (1999).
43. Sancaktar, E., Dilsiz, N., "Thickness Dependent Conduction Behavior of Various Particles for Conductive Adhesive Applications" Journal of Adhesion Science and Technology 13, pp. 763-771 (1999).
42. Sancaktar, E., Dilsiz, N., "Pressure Dependent Conduction Behavior of Various Particles for Conductive Adhesive Applications" Journal of Adhesion Science and Technology 13, pp. 679-693 (1999).
41. Yildirim, V., Sancaktar, E. and Kiral, E., "Comparison of the In-plane Natural Frequencies of Symmetric Cross-ply Laminated Beams Based on the Bernoulli Euler and Timoshenko Beam Theories" Journal of Applied Mechanics 66, pp. 410-417 (1999).

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39. Sancaktar, E., Gratton, M., "Design, Analysis, and Optimization of Composite Leaf Springs for Light Vehicle Applications" Composite Structures 44, pp. 195-204 (1999).
38. Sancaktar, E., Narayan, K., "Substrate Volume and Stress Gradient Concepts in Mechanical Adhesion: Analysis of Single Straight Sections" Journal of Adhesion Science and Technology 13, pp.237-271 (1999).
37. Sancaktar, E., "Polymer Adhesion by Ultrasonic Welding" Journal of Adhesion Science and Technology 13, pp. 179-201 (1999).
36. Dilsiz, N., Partch, R., Matijevic' E., and Sancaktar, E., "Silver Coating of Spindle- and Filament- Type Magnetic Particles for Conductive Adhesive Applications" Journal of Adhesion Science and Technology 11, pp. 1105-1118 (1997).
35. Sancaktar, E., Dilsiz, N., "Anisotropic Alignment of Nickel Particles in Magnetic Field for Electronically Conductive adhesives" Journal of Adhesion Science and Technology 11, pp. 155-166 (1997).
34. Sancaktar, E., "Recent Approaches in Constitutive Behavior and Testing of Structural Adhesives" Applied Mechanics Reviews 49, pp. S128-S138 (1996).
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32. Wei, Y., Sancaktar, E., "Dependence of Electric Conduction on Film Thickness of Conductive Adhesives: Modeling, Computer Simulation, and Experiment" Journal of Adhesion Science and Technology 10, pp. 1199-1219 (1996).
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30. Sancaktar, E., Wei, Y., and Gaynes, M. A., "Conduction Efficiency and Strength of Electronically Conductive Adhesive Joints" Journal of Adhesion 56, pp. 229-246 (1996).
29. Sancaktar, E., Lipshitz, H., Babu, S. V., Zhang, E., D' Couto, G. C., "The Effects of Laser Radiation at 248 nm on the Surface Characteristics and Joint Properties of Aluminum Adherends" Journal of Adhesion 50, pp. 103-133 (1995).

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27. Sancaktar, E., and Beachtle, D., "The Effect of Stress Whitening on Moisture Diffusion in Thermosetting Polymers" Journal of Adhesion 42, pp. 65-85 (1993).
26. Sancaktar, E., "An Analysis of the Curling Phenomenon in Viscoelastic Bimaterial Strips" Journal of Adhesion 40, pp. 175-187 (1993).
25. Sancaktar, E., Ma, W., and Yurgartis, S. W., "Electric Resistive Heat Curing of the Fiber-Matrix Interphase in Graphite/Epoxy Composites" Transactions of the ASME, Journal of Mechanical Design 115, pp. 53-60 (1993).
24. Sancaktar, E., Turgut, A., and Guo, F., "Viscoelastic and Processing Effects on the Fiber-Matrix Interphase Strength Part I: The Effects of Loading Rate, Test Temperature, Fiber Sizing, and Global Strain Level" Journal of Adhesion 38, pp. 89-109 (1992).
23. Turgut, A., and Sancaktar, E., "Viscoelastic and Processing Effects on the Fiber-Matrix Interphase Strength Part II: The Effects of Cure Temperature-Time and Curing Agent Content" Journal of Adhesion 38, pp. 111-129 (1992).
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- 1- Sancaktar, E., Jozavi, H., "An Engineering Design Method can Predict Tape Wrinkles" Pipe Line Industry 68, No. 3, pp. 45-49 (1988).

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2. Sancaktar, E., "Adhesives & Sealants, Design: Fatigue and Fracture Mechanics" Engineered Materials Handbook Volume 3: Adhesives and Sealants, H. F. Brinson, Technical Chairman, pp. 501-520 ASM International, Materials Park Ohio (1990).
1. Sancaktar, E., "Adhesives & Sealants, Testing and Analysis: Static and Dynamic Fatigue Testing" Engineered Materials Handbook Volume 3: Adhesives and Sealants, H. F. Brinson, Technical Chairman, pp. 349-372 ASM International, Materials Park Ohio (1990).

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24. Ahn, D. -U and Sancaktar, E. "Direct Fabrication of High Density Polymer Nano-dots by Excimer Laser Irradiation of Block Copolymer Masks" Polymer Surface Modification: Relevance to Adhesion Vol. 5, K. L. Mittal (Ed.), VSP, Leiden, The Netherlands (2009).
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22. Zhou, J. G. and Sancaktar, E., "Stable and Unstable Capillary Flows of Highly-Filled Epoxy/Nickel Suspensions" Electrically Conductive Adhesives, R. Gomatam and K. L. Mittal (Eds.), pp. 367-386, VSP, Leiden, The Netherlands (2008).
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19. Sancaktar, E., "An Analysis of the Curling Phenomenon in Pressure Sensitive Tapes" TECH 14 Pressure Sensitive Tape Council Technical Seminar Proceedings, pp.187-194 (1991).
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### **TECHNICAL PRESENTATIONS (Overall total is 216):**

#### **Invited Seminars at Universities, Research Institutions and Industry**

58. Sancaktar, E., "Macro to Nano Research Examples for Polymers and Polymer Based Composites" National Metal and Materials Technology Center (MTEC), Pathumthani, Thailand, December 7, 2006.

57. Sancaktar, E., "The Effects of High Rate Loading and Nanoclay Addition on Structural Adhesives" Henkel (Loctite) Japan, Ltd., Henkel Technology Center- Asia Pacific, Yokohama, Japan, December 4, 2006.

56. Sancaktar, E., "From Micro to Nano, Some Research Examples in Polymers and Polymer Based Composites" Hiroshima University, Hiroshima, Japan, November 30, 2006.

55. Sancaktar, E., "The Use of Excimer Laser in Evaluation of Processing Effects in some Injection Molded Amorphous and Crystalline Thermoplastics" The Japan Steel Works, Ltd. (JSW) Hiroshima Plant, Hiroshima, Japan, November 22, 2006.

54. Sancaktar, E., "From Micro to Nano, Some Research Examples in Polymers and Polymer Based Composites" Istanbul Technical University, Istanbul, Turkey, October 16, 2006.

53. Sancaktar, E., "Electrospun Nanofiber Based Detection Sensors" Yeditepe University, Istanbul, Turkey, October 11 2006.

52. Sancaktar, E., "From Macro to Nano, Some Research Examples in Polymers and Polymer Based Composites" Bogazici University, Vedat Yerlici Conference Centre, VYKM4, Istanbul, Turkey, October 9 2006.

51. Sancaktar, E., "Some Polymer Applications for Excimer Lasers" Yeditepe University, Istanbul, Turkey, October 6 2006.

50. Sancaktar, E., "Electronically Conductive Adhesives: Modeling and Development" Yeditepe University, Istanbul, Turkey, September 27 2006.
49. Sancaktar, E., "Mechanics of Adhesive Joints" Yeditepe University, Istanbul, Turkey, September 22 2006.
48. Sancaktar, E., "Conductive Composites" Gazi University, Ankara, Turkey, September 13, 2006.
47. Sancaktar, E., "Sensor Applications for Nanofibers" Gazi University, Ankara, Turkey, September 11, 2006.
46. Sancaktar, E., "Some Polymer Applications for Excimer Lasers". Shenyang Jianzhu University Shengyang, China, December 14, 2005.
45. Sancaktar, E., "Electronically Conductive Adhesives: Modeling, and Development". Tsinghua University, Beijing, P. R. China, December 13, 2005.
44. Sancaktar, E., "Case Studies in Adhesive Applications" Oakland University, Fastening and Joining Research Institute, Rochester, Michigan, November 15, 2005.
43. Sancaktar, E., "Polymer Surface Modification by Excimer Laser", Physical Optics Corp., September 26, 2005.
42. Sancaktar, E., "Some Examples of Interdisciplinary Research in Mechanical Engineering" Tennessee Technological University, Cookeville, Tennessee, March 1, 2005.
41. Sancaktar, E., "Polymer Applications for Excimer Lasers", Joint Akron ASME/ASM Meeting, Akron, OH, January 12, 2005.
40. Sancaktar, E., "Polymer Applications for Excimer Lasers", Akron Physics Club, Akron, OH, April 26, 2004.
39. Sancaktar, E., "Design with Adhesives and Composites. Some Case Studies" Stevens Institute of Technology, Castle Point on Hudson, New Jersey, March 21 2001.
38. Sancaktar, E., "Some Design Examples with Long Fiber Composite Materials" Free University, Brussels, Belgium, September 2 1997.
37. Sancaktar, E., "Electronically Conductive Adhesives: Modelling, and Development" 3M Technical Forum Seminar, 3M Company, St. Paul Minnesota, December 12 1995.
36. Sancaktar, E., "Design of Components Made of Composite Materials and Adhesively Bonded Joints" Florida International University, Department of Mechanical Engineering, Miami Florida, May 31 1995.

35. Sancaktar, E., "Studies on the Mechanical Behavior of Thermosetting Adhesives" The University of Akron, Institute of Polymer Engineering, Akron Ohio, April 25 1995.
34. Sancaktar, E., "Design of Composite Trails for the M198 Howitzer" US Army Armament, Munitions and Chemical Command Armament Research, Development and Engineering Center Watervliet New York, October 28 1993.
33. Sancaktar, E., "Development of New Adhesive Technologies" Firat University Elazig Turkey, August 4 1993.
32. Sancaktar, E., "Mechanical Behavior of Adhesively Bonded Joints and Interphases" Bosphorus University, Department of Mechanical Engineering Istanbul Turkey, July 30 1993.
31. Sancaktar, E., "Development of New Adhesive Technologies" Clarkson University Center for Advanced Materials Processing Technical Meeting, Alexandria Bay New York, May 10-12 1993.
30. Sancaktar, E., "The Effects of Cure and Loading Conditions on Fiber-Matrix Interphase" Carleton University Department of Civil Engineering, Ottawa Canada, December 4 1992.
29. Sancaktar, E., "Nonlinear Viscoelastic Behavior of the Fiber-Matrix Interphase: Theory and Experiment" Beijing Institute of Chemical Technology, Beijing P. R. China, October 16 1992.
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20. Sancaktar, E., "An Analysis of the Curling Phenomenon in Pressure Sensitive Tapes" Monsanto Chemical Company Specialty Resins Research and Development, Springfield Massachusetts, June 3 1991.
19. Sancaktar, E., "The Effect of Process Variables on Properties of Composites" United Technologies Pratt & Whitney Composites Development, March 7 1991.
18. Sancaktar, E., "Studies on Fiber-Matrix Interphase" Clarkson University, Department of Mechanical and Aeronautical Engineering, Feb. 28, 1990.
17. Sancaktar, E., "Studies on the Mechanical Behavior of Adhesives and Adhesively Bonded Joints" Wichita State University, Department of Aerospace Engineering, Feb. 19, 1990.
16. Sancaktar, E., "Stress Whitening in Modified Polymers: Theory and Experiment," Lawrence Livermore National Laboratory, September 9, 1989.
15. Sancaktar, E., "Mechanical Behavior of Adhesives, Polymers, and Composites," Eastman Kodak Company Apparatus Division, July 7, 1989.
14. Sancaktar, E., "Viscoelastic Behavior of the Fiber-Matrix Interphase, Theory and Experiment" Clarkson University, Center for Advanced Materials Processing Review Meeting, May 17 - 18, 1989.
13. Sancaktar, E., "Theory and Measurements of Fiber-Matrix Interfacial Forces," Clarkson University, Center for Advanced Materials Processing Review Meeting, October 13, 1987.
12. Sancaktar, E., "Mechanical Considerations on Structural Adhesives, Part II: Fracture of Adhesives in Bulk and Bonded Modes," Karadeniz Technical University, Schools of Engineering and Architecture, Trabzon Turkey, July 30, 1987.
11. Sancaktar, E., "Mechanical Considerations on Structural Adhesives, Part I: Viscoelastic Behavior, Stress Distributions in Adhesive Joints, Structure-Property Relationship," Karadeniz Technical University, Schools of Engineering and Architecture, Trabzon Turkey, July 28, 1987.
10. Sancaktar, E., "An Overview on Some Mechanical Aspects of Structural Adhesives," Bosphorus University, Engineering School, Istanbul Turkey, July 23, 1987.
9. Sancaktar, E., "An Overview on Some Mechanical Aspects of Structural Adhesives," Middle East Technical University, Macromolecular Research Unit, Ankara Turkey, July 14, 1987.
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4. Sancaktar, E., "Mechanical Behavior of Structural Adhesives. A Brief Overview," Kendall Company, Lexington Research Laboratories, Lexington, MA, October 25, 1984.
3. Sancaktar, E., "Overview of Some Mechanical Aspects of Structural Adhesives," Gannon University, Erie, Pennsylvania, March 1983.
2. Sancaktar, E., "Material Characterization of Structural Adhesives in Lap Shear Mode," NASA Langley Research Center, Hampton, Virginia, Feb. 1983.
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**Presentations at Technical Meetings:**

158. Zhou, J. and Sancaktar, E., "Epoxy/Nickel Conductive Adhesive Rheology During Processing and Cure" International Mechanical Engineering Congress and Exposition, Boston, MA., Oct. 31 – Nov, 6, 2008.
- 157- Aussawasathien, D. and Sancaktar, E., "Nanocomposites of Epoxy with Electrospun Carbon Nanofibers: Mechanical Behavior" 2<sup>nd</sup> International Conference on Advanced Computational Engineering and Experimenting, ACE-X 2008, Barcelona, Spain, July 14-15, 2008.
156. Ma. W. and Sancaktar, E., "Mathematical Assessment of the Effects of Parabolic and Spherical Surface Topographies on the Interfacial State of Stress" 2<sup>nd</sup> International Conference on Advanced Computational Engineering and Experimenting, ACE-X 2008, Barcelona, Spain, July 14-15, 2008.
155. Kibarer, G., Liu, C. and Sancaktar, E., "Pressure Dependent Conduction Behavior of Emeraldine Salt" 3<sup>rd</sup> International Symposium on Molecular Materials, MOLMAT 2008, Toulouse, France, July 8-11, 2008.

154. Ahn, D. U., Kibarar, G. and Sancaktar, E., “Nanotechnological Applications of Self Assembly in Block Copolymer Films” 3<sup>rd</sup> International Symposium on Molecular Materials, MOLMAT 2008, Toulouse, France, July 8-11, 2008.
153. Ahn, D. U. and Sancaktar, E., “Fabrication of Well-Defined Block Copolymer Nano-Cylinders by Self-Assembly and Their Use in High-Density Nano-Dots Fabrication by One-Step Excimer Laser Ablation” Nanoscience/Nanotechnology Workshop at NanoTR IV, Istanbul, Turkey, June 9-13, 2008.
152. Sancaktar, E. and Aussawasathien, D., “Sensor Fabrication by Electrospun Electrically Conductive Nanofibers” The 9<sup>th</sup> Cairo University International Conference On Mechanical Design and Production (MDP-9), Cairo, Egypt, January 8-10, 2008.
151. Ahn, D. U. and Sancaktar, E., “Fabrication Of High Density Silicon Nano-dots by Excimer Laser Irradiation on Block Copolymer Masks” 2007 ASME International Design Engineering Technical Conferences & Computers and Information in Engineering Conference, Las Vegas, NV, Sept. 4-7, 2007.
150. Zhou, J. and Sancaktar, E., “Capillary Flows of Highly Filled Epoxy/Ni Suspensions for Conductive Adhesive Applications” 2007 ASME International Design Engineering Technical Conferences & Computers and Information in Engineering Conference, Las Vegas, NV, Sept. 4-7, 2007.
149. Chang, I-Ta and Sancaktar, E., “Evaluation of Processing Effects on Polystyrene/Clay Nanocomposites Using an Excimer Laser” 2007 ASME International Design Engineering Technical Conferences & Computers and Information in Engineering Conference, Las Vegas, NV, Sept. 4-7, 2007.
148. Aussawasathien, D. and Sancaktar, E., “Mechanical Properties of Electrospun Carbon Nano Fiber (ECNF)/Epoxy Nanocomposites” 2007 ASME International Design Engineering Technical Conferences & Computers and Information in Engineering Conference, Las Vegas, NV, Sept. 4-7, 2007.
147. Aussawasathien, D. and Sancaktar, E., “Effects of Non-Woven Carbon Nanofiber Mat Presence on Cure Kinetics of Epoxy Nanocomposites” The 2<sup>nd</sup> International Conference on Advances on Petrochemicals and Polymers (ICAPP2007), Bangkok, Thailand, June 25-28, 2007.
146. Ahn D. U. and Sancaktar, E., “Control of Block Copolymer Cylinder Orientation by Homopolymer Blending” Sixth International Symposium on Polymer Surface Modification: Relevance to Adhesion, Cincinnati, Ohio, June 11-13, 2007.
145. Ahn D. U. and Sancaktar, E., “Direct Fabrication of High Density Polymer or Silicon Nano-Dots by Excimer Laser Irradiation on Block Copolymer Masks” Sixth International Symposium on Polymer Surface Modification: Relevance to Adhesion, Cincinnati, Ohio, June 11-13, 2007.

144. Aussawasathien, D. and Sancaktar, E., “Nickel Nanofibers via Sol-gel and Electrospinning Processes, Asian Workshop on Polymer Processing (AWPP), Bangkok, Thailand, December 6-8, 2006.
143. Sancaktar E. and Kuznicki, J., “Stress-Dependent Water Uptake Behavior of Clay Reinforced Nanocomposite Epoxy” International Mechanical Engineering Congress and Exposition, Orlando, FL., November 9-11, 2005.
142. Sancaktar, E. and Aussawasathien, D., “Improving Volume Resistivity of Epoxy Nanocomposites Using Electrospun Polyacrylonitrile-Based Carbon Nanofibers and Their Silver Modification” International Mechanical Engineering Congress and Exposition, Orlando, FL., November 9-11, 2005.
141. Sancaktar, E. and Kim, J.-D., Calculation of Excimer Laser Induced Temperature Profiles in PET, PBT, and PS Polymer Films” 2005 ASME International Design Engineering Technical Conferences & Computers and Information in Engineering Conference, Long Beach, CA, Sept. 24-28, 2005.
140. Sancaktar, E., Kim, J.-D. and Ahn, D.-U; “The Effects of Excimer Laser Ablation on Surface Morphology and Crystallinity of Uniaxially Stretched Poly(ethylene terephthalate) Films” Fifth International Symposium on Polymer Surface Modification: Relevance to Adhesion, Toronto, Canada, June 20-22, 2005.
139. Sancaktar, E., Rajput, P. and Khanolkar, A., “Correlation of the Pull-out Strength of a Silver Wire Embedded in an Adhesive Matrix to Surface Mass Loss by Silver Migration” International Symposium on Interfaces in Polymer Composites and High Tech Adhesives, Savannah, GA, December 7-8, 2004.
138. Gomatam, R. and Sancaktar, E., “A Novel Cumulative Fatigue Damage Model for Assessing Residual Fatigue Life for Joints Bonded Using a Silver-Filled Electronically Conductive Adhesive” International Symposium on Interfaces in Polymer Composites and High Tech Adhesives, Savannah, GA, December 7-8, 2004.
137. Gomatam, R. and Sancaktar, E., “A Comprehensive Fatigue Life Predictive Model for Joints Bonded Using a Silver-Filled Electronically Conductive Adhesive” International Symposium on Interfaces in Polymer Composites and High Tech Adhesives, Savannah, GA, December 7-8, 2004.
136. Fong, R. D. and Sancaktar, E., “Compressive Stress Relaxation and Nonlinear Finite Element Analysis of Ethylene/Acrylic Vamac® Terpolymer Elastomer (AEM)” International Mechanical Engineering Congress and Exposition, Anaheim, CA., November 13-19, 2004.
135. Gomatam, R. and Sancaktar, E., “A Study of Fatigue and Failure Behavior of Conductive Adhesive Joints Subjected to Elevated Temperature and Humidity” International Mechanical Engineering Congress and Exposition, Anaheim, CA., November 13-19, 2004.

134. Sancaktar, E., Negandhi, N and Adwani, S., “Evaluation of Processing Effects in Injection Molded Thermoplastics Using Excimer Laser” International Mechanical Engineering Congress and Exposition, Anaheim, CA., November 13-19, 2004.

131. Sancaktar, E., Asiri, A. Y and Kumar G. S., “A Novel Economical Method to Improve the Toughness of Carbon/Epoxy Long Fiber Components by the Integration of Tow Loops Cores” International Mechanical Engineering Congress and Exposition, Anaheim, CA., November 13-19, 2004.

132. Sancaktar, E., Khanolkar, A. and Rajput, P., “Long-term Migration Effects on the Pull-out Strength of a Silver Wire Embedded in an Adhesive Matrix” Polytronic 2004: 4th International IEEE Conference on Polymers and Adhesives in Microelectronics and Photonics, Portland, OR, Sept. 12-15, 2004.

131. Sancaktar, E. and Bai, L. “Modeling Filler Volume Fraction and Film Thickness Effects on Conductive Adhesive Resistivity” Polytronic 2004: 4th International IEEE Conference on Polymers and Adhesives in Microelectronics and Photonics, Portland, OR, Sept. 12-15, 2004.

130. Gomatam, R. R. and Sancaktar, E., “Modeling Fatigue Behavior of Electronically Conductive Adhesive Joints Under Elevated Temperature and Humidity Conditions” Polytronic 2004: 4th International IEEE Conference on Polymers and Adhesives in Microelectronics and Photonics, Portland, OR, Sept. 12-15, 2004.

129. Sancaktar, E., Negandhi, N. and Adwani, S., “The use of Excimer Laser in Evaluation of Processing Effects in some Injection Molded Amorphous and Crystalline Thermoplastics”, PPS-20, Polymer Processing Society 2004 Annual Meeting & 20<sup>th</sup> Anniversary Celebration, Akron, OH, June 20-24, 2004.

128. Sancaktar, E., Asiri, A. Y. and Kumar, G. S., “The Effect of Adhesion in Increasing the Toughness of Composite Plates Containing Sandwich Tow Loops”, PPS-20, Polymer Processing Society 2004 Annual Meeting & 20<sup>th</sup> Anniversary Celebration, Akron, OH, June 20-24, 2004.

127. Gomatam, R. R. and Sancaktar, E., “Fatigue Behavior of Electronically Conductive Adhesive Joints Under Elevated Temperature and Humidity Conditions” (Keynote) PPS-20, Polymer Processing Society 2004 Annual Meeting & 20<sup>th</sup> Anniversary Celebration, Akron, OH, June 20-24, 2004.

126. Lyuksyutov, S., Paramonov, P., Sancaktar, E., Vaia, R. and Juhl, S., “Patterning of Nanostructures with High Aspect Ration in Polymer Materials” APS Spring Meeting of the Ohio Section, Ohio University, Athens, OH, April 16-17, 2004.

125. Rajesh Gomatam, and Erol Sancaktar, “Modeling Fatigue Behavior of Electronically Conductive Filled Adhesive Joints under Cyclic Loading - A Novel Modeling Approach for

Integrated Joint Life Prediction”, IMAPS 2003, 36th International Symposium on Microelectronics, Boston, MA, Nov 18-20, 2003.

124. Sancaktar, E. and Schaubert, D. A., Jr., “Failure Behavior of Filament-wound Carbon Fiber/Epoxy Composite Tubes Under Axial Compression” International Mechanical Engineering Congress and Exposition, Washington, D.C., November 15-21, 2003.

123. Gomatam, R. R. and Sancaktar, E., “Fatigue Behavior of Electronically Conductive Adhesive Joints”, International Mechanical Engineering Congress and Exposition, Washington D.C., November 15-21, 2003.

122. Lyuksyutov, S., Paramonov, P., Sigalov, G., Vaia, R., Juhl, S. and Sancaktar, E., “Electrostatic Nanolithography in Polymer Materials: An Alternative Technique for Nanostructures Formation” APS Fall Meeting of the Ohio Section, Case Western Reserve University, Cleveland, OH, October 17-18, 2003.

121. Sancaktar, E. and Rajput, P., “Long-Term Migration Effects on the Pullout Strength of a Silver Wire Embedded in an Adhesive Matrix” 2003 ASME International Design Engineering Technical Conferences & Computers and Information in Engineering Conference, Chicago, IL, Sept. 2-6, 2003.

120. Sancaktar, E. and Bai, L., “The Effects of Filler Volume Fraction and Film Thickness on Resistivity of Conductive Adhesives” 2003 ASME International Design Engineering Technical Conferences & Computers and Information in Engineering Conference, Chicago, IL, Sept. 2-6, 2003.

119. Sancaktar, E. and Walker, E., “Effect of Fillers on Ultrasonic Welding of Polypropylene” 2003 ASME International Design Engineering Technical Conferences & Computers and Information in Engineering Conference, Chicago, IL, Sept. 2-6, 2003.

118. Sancaktar, E. and Shah, N. S., “Design of Filament-Wound Graphite/Epoxy Containment Shield for Jet Engines” 2003 ASME International Design Engineering Technical Conferences & Computers and Information in Engineering Conference, Chicago, IL, Sept. 2-6, 2003.

117. Sancaktar, E., “Some Polymer Applications for Excimer Lasers” The 20<sup>th</sup> Annual ASEI National Convention, Cleveland, OH, Aug. 30 - Sept. 1, 2003.

116. Sancaktar, E. and Lu, H., “The Effect of Excimer Laser Irradiation on the Self-adhesion Properties of Some Engineering Polymers as Evaluated by Ultrasonic Welding” Fourth International Symposium on Polymer Surface Modification, Lake Buena Vista, FL, June 9-11, 2003 (Invited, partial expenses paid).

115. Lyuksyutov, S. F., Sancaktar, E., Paramonov, P. B. and Kim, J. “SPM-based Nanolithography in Polyethylene-Terephthalate Polymer Films” Fourth International Symposium on Polymer Surface Modification, Lake Buena Vista, FL, June 9-11, 2003 (Invited, partial expenses paid).

114. Gomatam, R. and Sancaktar, E., "Failure Behavior and Fatigue Life Prediction of Die-Attach Adhesives", IMAPS Keystone Bethlehem Chapter, Northampton Community College, Bethlehem, PA, June 5, 2003.
113. Lyuksyutov, S., Vaia, R., Sigalov, G., Paramonov, P., Ralich, R., Juhl, S. and Sancaktar, E., "Electrostatic AFM Nanolithography in Polymers" March 2003 Meeting of the American Physical Society, Austin, TX, March 3-7, 2003.
112. Ma, W. and Sancaktar, E., "A Novel Mathematical 3-D Procedure to Evaluate the Interfacial State of Stress in Adhesively Bonded Scarf Joints: The General Case of Parabolic Scarf Surface" International Mechanical Engineering Congress and Exposition, New Orleans, LA, November 17-22, 2002.
111. Nirantar, P. and Sancaktar, E., "Optimization of Adhesively Bonded Single Lap Joints by Tapering of Adherends" International Mechanical Engineering Congress and Exposition, New Orleans, LA, November 17-22, 2002.
110. Karmarkar, U. and Sancaktar, E., Mechanical Adhesion Analysis of Multi-Stepped Double Scarf Joints with Void and Disbond Effects" International Mechanical Engineering Congress and Exposition, New Orleans, LA, November 17-22, 2002.
109. Teli, S. and Sancaktar, E., "Stress States and Interference in Double Adhesive Layer Scarf and Butt Joints" International Mechanical Engineering Congress and Exposition, New Orleans, LA, November 17-22, 2002.
108. Sancaktar, E. and Gowrishankar, S., "Apparent Nonlinearities in Mechanical Behavior of Epoxy Based Composite Helical Springs" 2<sup>nd</sup> Canadian Conference on Nonlinear Solid Mechanics, Simon Fraser University, Vancouver, British Columbia, Canada, June 19-23, 2002.
107. Sancaktar, E. and Garza-Lopez, Tito Enrique, "The Use of Excimer Laser in the Evaluation of Pressure Sensitive Tape Adhesion, and Backing Directionality" PSTC TECH XXV, Atlanta GA, May 1-3, 2002.
106. Gomatam, Rajesh, Sancaktar, Erol, Boismer, Dennis, Schue, Daniel, Malik, Irfan, "Behavior of Electronically Conductive Filled Adhesive Joints under Cyclic Loading Part 1: Experimental Approach" International Symposium on Advanced Packaging Materials: Processes, Properties and Interfaces, Braselton, GA, Mar. 11-14, 2001.
105. Sancaktar, E. and Gowrishankar, S., "Design and Testing of Glass-Epoxy Composite Helical Springs" International Mechanical Engineering Congress and Exposition, New York, NY, November 11-16, 2001.
104. Sancaktar, E. and Gowrishankar, S., "Design and Testing of Composite Cylindrical Helical Springs" DURACOSYS 2001, Tokyo, Japan, November 6-9, 2001.

103. Sancaktar, E. and Shah, N., "Design of Filament-Wound Polymer-Matrix Composite Shield for Jet Engine Fan Blade Containment" DURACOSYS 2001, Tokyo, Japan, November 6-9, 2001.
102. Sancaktar, E. and Gowrishankar, S., "Design and Testing of Graphite-Epoxy Composite Helical Springs" PPS'2001, Antalya, Turkey, October 22-24, 2001.
101. Sancaktar, E. and Lu, H., "The Effect of Excimer Laser Irradiation on the Morphology, Thermal Properties, and Welding Strength of Some Engineering Polymers" PPS'2001, Antalya, Turkey, October 22-24, 2001.
100. Sancaktar, E. and Khanolkar, A. A., "Effect of Interfacial Weight Loss by Silver Migration on the Pullout Strength of Silver Wire Embedded in an Adhesive Matrix" The Pacific Rim/ASME International Electronic Packaging Technical Conference and Exhibition, Kauai, Hawaii, July 8-13, 2001.
99. Sancaktar, E. and Garza-Lopez, T. E., "The Effects of Excimer Laser Irradiation on Biaxially Oriented Polypropylene Adhesive Tape" Third International Symposium on Polymer Surface Modification, Newark, NJ, May 21-23, 2001 (Invited, partial expenses paid).
98. Sancaktar, E. and Sunthonpagasit, N., "Improving the Ultrasonic Weld Strength of Polypropylene by Bulk Material and Surface Modification Methods Including Excimer Laser Irradiation" Third International Symposium on Polymer Surface Modification, Newark, NJ, May 21-23, 2001 (Invited, partial expenses paid).
97. Sancaktar, E., "Mechanics of the Surface Topography Effects in Adhesion" International Symposium on Adhesives: Synthesis, Characterization and Applications, Newark, NJ, Nov. 27-29, 2000 (Invited, partial expenses paid).
96. Sancaktar, E., "Recent Examples for the Application of Excimer Laser Methods in the Field of Adhesion" International Symposium on Adhesives: Synthesis, Characterization and Applications, Newark, NJ, Nov. 27-29, 2000 (Invited, partial expenses paid).
95. Arslan, N., Turgut, A. and Sancaktar, E., "Elasto-Plastic Finite Element Stress Analysis of Thermoplastic-Matrix Symmetric Cross-Ply Plates with Square Hole" International Mechanical Engineering Congress and Exposition, Orlando, Florida, November 5-10, 2000.
94. Sancaktar, E., "Discretization of the Adhesively Bonded Joint" Symposium in Honor of Dr. Hal Brinson, Virginia Tech, Blacksburg, VA, Sept. 22-23, 2000 (Invited).
93. Okumus, F., Turgut, A., and Sancaktar, E., "Thermoplastic Stress Analysis of Graphite Reinforced Composite Cantilever Beam of Arbitrary Orientation, Subjected to Uniformly Distributed Loads" ASME 2000 International Design Engineering Technical Conferences and Computers and Information in Engineering Conference, Baltimore Maryland, September 10-13, 2000.

92. Okumus, F., Turgut, A., and Sancaktar, E., "Influence of Coating Layer to Reduce Thermal Stresses in Cylindrically Formed Metal Matrix Composites" ASME 2000 International Design Engineering Technical Conferences and Computers and Information in Engineering Conference, Baltimore Maryland, September 10-13, 2000.
91. Arslan, N., Sancaktar, E., and Celik, M., "Elastoplastic Behavior of Thermoplastic Matrix Roller Chain Link Plates Reinforced with Steel Plates" ASME 2000 International Design Engineering Technical Conferences and Computers and Information in Engineering Conference, Baltimore Maryland, September 10-13, 2000.
90. Sancaktar, E., and Gomatam, R., "Correlation of Joint Strength, and Deformation with Joint Resistance, and Substrate Surface Conditions" Adhesives in Electronics 2000, Espoo, Finland, June 18-21.
89. Sancaktar, E., and Dilsiz, N., "Conduction Behavior of Filled Polymer Films" IMAPS-Europe Prague 2000, European Microelectronics Packaging and Interconnection Symposium, Prague, Czech Republic, June 18-20.
88. Sancaktar, E. and Gomatam, R., "The Effects of Surface Modification on Wettability and Joint Strength" 2<sup>nd</sup> International Conference on Adhesive Joints: Formation, Characteristics, and Testing, Robert Treat Hotel, Newark, NJ, May 22-24, 2000 (Invited, partial expenses paid).
87. Sancaktar, E. and Kumar, S., "Selective Use of Rubber Toughening to Optimize Lap-joint Strength" 4<sup>th</sup> International Symposium on Finite Element Analysis of Rubber and Rubber-like Materials, Akron, OH, June 13-14, 2000 (Invited).
86. Gomatam, R. and Sancaktar, E., "Correlation of Single Lap Joint Strength, and Deformation with Joint Resistance, Surface, and Cure Conditions" 23<sup>rd</sup> Annual Meeting of the Adhesion Society, Myrtle Beach, SC, Feb. 20-23, 2000.
85. Yildirim, V., Sancaktar, E. and Kiral, E., "Effect of the Material Types on the Fundamental Frequencies of Uniaxial Composite Conical Springs" International Mechanical Engineering Congress and Exposition, Nashville, Tennessee, November 14-19, 1999.
84. Yildirim, V., Sancaktar, E. and Kiral, E., "Fundamental Frequencies of Uniaxial Composite Barrel and Hyperboloidal Springs" International Mechanical Engineering Congress and Exposition, Nashville, Tennessee, November 14-19, 1999.
83. Okumus, F., Turgut, A. and Sancaktar, E., "Elasto-plastic Finite Element Analysis of Metal-matrix Composite Plates with Hole Under Plane Loading" International Mechanical Engineering Congress and Exposition, Nashville, Tennessee, November 14-19, 1999.

82. Sancaktar, E. and Simmons, S. R., "Optimization of Adhesively Bonded Single Lap Joints by Adherend Notching" International Mechanical Engineering Congress and Exposition, Nashville, Tennessee, November 14-19, 1999.
81. Sancaktar, E. and Kumar, S., "Selective Use of Rubber Toughening to Optimize Lap-joint Strength" International Mechanical Engineering Congress and Exposition, Nashville, Tennessee, November 14-19, 1999.
80. Sancaktar, E., Gomatam, R., "A Study on the Effects of Surface Roughness on the Strength of Single Lap Joints" International Mechanical Engineering Congress and Exposition, Anaheim , California, November 15-20, 1998.
79. Yildirim, V., Sancaktar, E., and Kiral, E., "Free Vibration of Symmetric Cross-ply Laminated Cylindrical Helical Springs" International Mechanical Engineering Congress and Exposition, Anaheim , California, November 15-20, 1998.
78. Yildirim, V., Sancaktar, E., "Free Vibration Behavior of Unidirectional Composite Cylindrical Helical Springs with Circular Section" International Mechanical Engineering Congress and Exposition, Anaheim , California, November 15-20, 1998.
77. Sancaktar, E., Narayan, K., "A Unified Approach to Mechanical Adhesion by Finite Element Analysis of Straight Sections" International Mechanical Engineering Congress and Exposition, Anaheim , California, November 15-20, 1998.
76. Gomatam, R., Sancaktar, E., "A Study on the effect of Surface Roughness on the Strength of Single Lap Joints" 3<sup>rd</sup> International Conference on Adhesive Joining and Coating Technology in Electronics Manufacturing, Binghamton, NY, September 28-30, 1998.
75. Sancaktar, E., Dilsiz, N., "Pressure Dependent Conduction Behavior of Various Particles for Conductive Adhesive Applications" 3<sup>rd</sup> International Conference on Adhesive Joining and Coating Technology in Electronics Manufacturing, Binghamton, NY, September 28-30, 1998.
74. Sancaktar, E., Dilsiz, N., "Thickness Dependent Conduction Behavior of Various Particles for Conductive Adhesive Applications" 3<sup>rd</sup> International Conference on Adhesive Joining and Coating Technology in Electronics Manufacturing, Binghamton, NY, September 28-30, 1998.
73. Grotton, M. and Sancaktar, E., "Design, Analysis, and Optimization of Composite Leaf Springs for Light Vehicle Applications" International Mechanical Engineering Congress and Exposition, Dallas , Texas, November 16-21 1997.
72. Sancaktar, E., "Filler Particle Performance in Conductive Adhesives" 5<sup>th</sup> Chemical Congress of North America, Cancun, Mexico, November 11-15 1997 (Invited, expenses paid)
71. Sancaktar, E., "Design of Rubber Components" Energy Rubber Group Educational Symposium '97, Addison Texas, September 16-17 1997 (Invited, expenses paid).

70. Sancaktar, E., "Testing and Analysis for Durability of Adhesively Bonded Joints under Static and Dynamic Fatigue Conditions" EUROMECH 358, Mechanical Behaviour of Adhesive Joints: Analysis, Testing, and Design, Nevers, France, September 4-6 1997 (Invited, expenses paid).
69. Sancaktar, E., "The Effects of Bond Geometry, and Substrate Surface Topography, Optimization and Failure Criteria" Akron Rubber Development Laboratory Inc., Elastomer Service Life Prediction Symposium'97, Akron, Ohio, August 14-15 1997 (Invited).
68. Sancaktar, E., "Mixed-mode Fatigue Failure in Structural Adhesive Joints" ASTM 29<sup>th</sup> National Symposium on Fatigue and Fracture Mechanics, Stanford, California, June 24-26 1997.
67. Ma, W., Sancaktar, E., "Substrate Surface Topography Optimization for Adhesion" International Mechanical Engineering Congress and Exposition, Atlanta, Georgia, November 17-22 1996.
66. Arslan, N., Turgut, A., and Sancaktar, E., "Elastoplastic Finite Element Analysis of Isotropic Plates with U-notches" International Mechanical Engineering Congress and Exposition, Atlanta, Georgia, November 17-22 1996.
65. Gur, M., Turgut, A. and Sancaktar, E., "The Effect of Fiber Type on the Level of Stress Concentration Created in Rectangular Composite Filleted Bars in Bending" International Mechanical Engineering Congress and Exposition, San Francisco, California, November 12-17 1995.
64. Baylor, J. and Sancaktar, E., "A Comparison of Adhesively Bonded Single Lap, Scarf and Butt Joints" International Mechanical Engineering Congress and Exposition, San Francisco, California, November 12-17 1995.
63. Sancaktar, E., and Wei, Y., "An Electric Conduction Model for Electronically Conductive Adhesives" International Mechanical Engineering Congress and Exposition, San Francisco, California, November 12-17 1995.
62. Sancaktar, E. and Wei, Y., "Electronically Conductive Adhesives: Conduction Mechanisms, Mechanical Behavior, and Durability" The CAN-AM ISHM Annual Symposium and Exhibition on Advances in Microelectronics & Packaging, Granby, Quebec, September 13-15, 1995.
61. Wei, Y. and Sancaktar, E., "A Pressure Dependent Conduction Model for Electronically Conductive Adhesives" 1995 ISHM Symposium, Los Angeles, California, October 24-26 1995.
60. Sancaktar, E. and Wei, Y., "Electronically Conductive Adhesives: Conduction Mechanisms, Mechanical Behavior and Durability" First International Congress on Adhesion Science and Technology, Amsterdam, Netherlands, October 16-20 1995 (Invited).

59. Sancaktar, E. and Wei, Y., "Dependence of Electric Conduction on Film Thickness of Conductive Adhesives" 45th. Electronic Components and Technology Conference, Las Vegas, Nevada, May 21-24 1995.
58. Sancaktar, E. and Zhang, E., "Laser Ablation of Aluminum and Titanium Surfaces for Improved Adhesion" International Mechanical Engineering Congress and Exposition, Chicago, Illinois, November 6-11 1994.
57. Lipshitz, H., Stillwell, R. and Sancaktar, E., "On Relationship Between the Topographic Characteristics of Aluminum Adherends and Their Joint Properties" SPIE Conference, Boston, Massachusetts, October 31-November 4 1994.
56. Sancaktar, E., West, M. and, Miner, K., "Design of Composite Trails for M198 Howitzer" International Conference on Design and Manufacturing Using Composites, Montreal, Canada, August 10-12 1994.
55. Sancaktar, E. and, Zhang, E., "Excimer Laser Ablation of Aluminum Surfaces Under Surface Plasma Condition" International Seminar on Heat and Mass Transfer Under Plasma Conditions, Izmir, Turkey, July 4-8 1994.
54. Sancaktar, E., Wei, Y. and, Gaynes, M. A., "Conduction Efficiency and Strength of Electronically Conductive Adhesives" 17th Annual Meeting of the Adhesion Society, Orlando, Florida, February 20-23 1994.
53. Sancaktar, E., Babu, S. V., Ma, W., Zhang, E., D'Couto, G. C. and, Lipshitz, H., "Laser Ablation Surface Treatment (LAST) of Aluminum Surfaces for Improved Adhesion" First Department of the Army Advanced Composites Conference, Corpus Christi, Texas, February 7-10 1994.
52. Sancaktar, E., West, M., "Design of Composite Trails for M198 Howitzer" First Department of the Army Advanced Composites Conference, Corpus Christi, Texas, February 7-10 1993.
51. Pihili, H., Turgut, A., Sancaktar, E., "Stress Analysis and Optimization for Composite Inverted-Tooth Chain Link Plates" CANCOM'93 Second Canadian International Composites Conference and Exhibition, Ottawa, Canada, September 27-29 1993.
50. Sancaktar, E., "Fatigue Behavior of Adhesive Joints Under Biaxial Loading Conditions" ASME 10th Biennial Conference on Reliability, Stress Analysis and, Failure Prevention, Albuquerque, New Mexico, September 19-22 1993.
49. Turgut, A., Sancaktar, E. and, Arslan, N., "The Effects of Fiber Type on the Level of Stress Concentration Created by U-Notches in Long-Fiber Composite Plates" ASME 10th Biennial Conference on Reliability, Stress Analysis and, Failure Prevention, Albuquerque, New Mexico, September 19-22 1993.

48. Sancaktar, E., Ma, W. and, Aidun, D., "Evaluation of Some Critical Parameters in Ultrasonic Welding of Thermoplastics" International Symposium on "The Interphase" Williamsburg, Virginia, February 21-26 1993.
47. Sancaktar, E., Babu, S. V., Ma, W., D'Couto, G. C. and, Lipshitz, H., "Laser Ablation of Metal Substrate Surfaces for Improved Adhesion" International Symposium on "The Interphase" Williamsburg, Virginia, February 21-26 1993.
46. Sancaktar, E., Ma, W. and Aidun, D., "Evaluation of Some Critical Parameters in Ultrasonic Welding of Thermoplastics" NATO Advanced Study Institute on the Interfacial Interactions in Polymeric Composites, Kemer, Turkey, June 15-26 1992.
45. Sancaktar, E., Babu, S. V., Ma, W., D'Couste, C. and Lipshitz, H., "Adhesion Improvement by Laser Ablation of Metal Surfaces" NATO Advanced Study Institute on the Interfacial Interactions in Polymeric Composites, Kemer, Turkey, June 15-26 1992.
44. Sancaktar, E., "Nonlinear Viscoelastic Modelling of the Fiber-Matrix Interphase" NATO Advanced Study Institute on the Interfacial Interactions in Polymeric Composites, Kemer, Turkey, June 15-26 1992.
43. Sancaktar, E., "The Effects of Cure and Loading Conditions on Fiber-Matrix Interphase" NATO Advanced Study Institute on the Interfacial Interactions in Polymeric Composites, Kemer, Turkey, June 15-26 1992.
42. Ma, W., Aidun, D. and Sancaktar, E., "Ultrasonic Welding of Polymer Materials" 3rd International Conference on Trends in Welding Research (ASM), Gatlinburg, Tennessee, June 1-5 1992.
41. Sancaktar, E., Ma, Weijian and Yurgartis, S. W., "Electric Resistive Heat Curing of the Fiber-Matrix Interphase in Graphite/Epoxy Composites" ASME 9th. Biennial Conference on Reliability Stress Analysis and Failure Prevention, Miami, Florida, Sept 22-25 1991.
40. Sancaktar, E. and Turgut, A., "The Effects of Cure and Loading Conditions on Matrix Cracking at Fiber Termini" CANCOM'91, First Canadian International Composites Conference and Exhibition, Montreal, Canada, Sept. 4-6 1991.
39. Sancaktar, E. and Beachtle, D. R., "The Effect of Stress Whitening on Moisture Diffusion in Thermosetting Polymers" CANCOM'91, First Canadian International Composites Conference and Exhibition, Montreal, Canada, Sept. 4-6 1991.
38. Sancaktar, E., "An Analysis of the Curling Phenomenon in Pressure Sensitive Tapes" Pressure Sensitive Tape Council 14th. Technical Seminar, Schaumburg, Illinois, May 1-3 1991 (Invited, expenses paid).

37. Turgut, A. and Sancaktar, E., "The Effects of Cure and Loading Conditions on Fiber-Matrix Adhesion" 14th Annual Meeting of the Adhesion Society, Clearwater, Florida, Feb. 17-20 1991.
36. Sancaktar, E., "Nonlinear Viscoelastic Behavior of the Fiber-Matrix Interphase: Theory and Experiment" EUROMECH 269, Experimental Identification of the Mechanical Characteristics of Composite Materials and Structures, Ecole des Mines, Saint-Etienne, France, Dec. 3-6 1990.
35. Sancaktar, E., and, Zhang, P., "Nonlinear Viscoelastic Modelling of the Fiber-Matrix Interphase," ASME Failure Prevention and Reliability Conference, Montreal, Canada, Sept. 17-20, 1989.
34. Sancaktar, E., "Viscoelastic Behavior of the Fiber-Matrix Interphase, Theory and Experiment," Gordon Research Conference on the Science of Adhesion, New Hampton, New Hampshire, August 1989 (Invited, expenses paid).
33. Sancaktar, E., and, Jozavi, H., "An Engineering Design Method for Pipe-Wrap Tapes Based on Soil-Pipe Interaction," ASME Pressure Vessel and Piping Conference, Honolulu, Hawaii, July 23-27, 1989.
32. Sancaktar, E., and, Jozavi, H., "Constitutive Modelling of Stress Whitening in Rubber Toughened Epoxy Adhesives," Twelfth Canadian Congress of Applied Mechanics, Carleton University Ottawa, Canada, May 28 - June 2, 1989.
31. Sancaktar, E., "An Assessment of the Correspondence Principle in Comparison to Nonlinear Viscoelastic Theory: A Case Study," Twelfth Canadian Congress of Applied Mechanics, Carleton University Ottawa, Canada, May 28 - June 2, 1989.
30. Jozavi, H., and, Sancaktar, E., "The Effects of Cure Conditions on the Relaxation Behavior of Thermosetting Adhesives," Thirty Fifth Sagamore Army Materials Research Conference on the Science and Technology of Adhesive Bonding, Manchester New Hampshire, June 26-30, 1988 (Invited).
29. Jozavi, H., Dupuis, C.W., and, Sancaktar, E., "Investigation of Fracture Behavior of a Composite Crack Arrestor," 1988 ASME Pressure Vessels and Piping Conference, Pittsburgh, Pennsylvania, June 19-23, 1988.
28. Sancaktar, E., "Elastoplastic Fracture Behavior of Structural Adhesives Under Monotonic and Dynamic Loading," Fifth International Joint Government Industry Symposium on Structural Adhesive Bonding, Picatinny Arsenal, Dover, New Jersey, November 1987.
27. Sancaktar, E., and, Tang, J., "Mixed-Mode Fracture in Adhesively Bonded Joints Under Dynamic Loading," Plastics and Rubber Institute, Adhesion '87, York, England, September 1987.

26. Sancaktar, E., "Elastoplastic Fracture Behavior of Structural Adhesives," European Mechanics Colloquium on the Mechanical Behavior of Adhesive Joints, Saint-Etienne, France, September 1987.
25. Sancaktar, E., Jozavi, H., Baldwin, J., Tang, J., "Elastoplastic Fracture Behavior of Structural Adhesives Under Monotonic Loading," 1987 Adhesion Society International Meeting, Williamsburg, Virginia, February 1987.
24. Jozavi, H., Sancaktar, E., "Application of Differential Thermal Analysis to Evaluation of Extent of Cure and the Associated Bulk Tensile Properties of a Thermosetting Structural Adhesive," Gordon Research Conference on the Science of Adhesion (Poster Session), New Hampton School, New Hampton, New Hampshire, August 1986 (Invited, expenses paid).
23. Sancaktar, E., Jozavi, H., Baldwin, J., Tang, J., "Elastoplastic Fracture Behavior of Structural Adhesives," Gordon Research Conference on the Science of Adhesion, New Hampton School, New Hampton, New Hampshire, August 1986 (Invited, expenses paid).
22. Sancaktar, E. and Baldwin, J.F., "Mixed Mode Fracture in Adhesively Bonded Joints Under Monotonic Loading," 1986 Spring Conference on Experimental Mechanics, New Orleans, Louisiana, June 8-13, 1986.
21. Sancaktar, E., Jozavi, H. and Baldwin, J.F., "Elastoplastic Fracture Behavior of Structural Adhesives Under Monotonic Loading," Southeastern Conference on Theoretical and Applied Mechanics, Columbia, South Carolina, April 17-18, 1986.
20. Sancaktar, E. "A Brief Discussion of Adhesive Thickness Effects on Joint Performance," 1985 Kendall Colloquium, Cape Cod, Massachusetts, Oct. 1985 (Invited, expenses paid).
19. Sancaktar, E. "Some Considerations for Quality Assurance in Adhesively Bonded Joints," Adhesives, Sealants and Encapsulants 1985 Conference, Kensington Exhibition Centre, London, England, November 1985.
18. Sancaktar, E. and Baldwin, J.F. "An Experimental Investigation of Mixed-Mode Fracture in Adhesively Bonded Joints," Gordon Research Conference on the Science of Adhesion (Poster Session), New Hampton School, New Hampton, New Hampshire, August 1985 (Invited, expenses paid).
17. Sancaktar, E. and Dembosky, S.K., "The Effects of Molecular Weight on the Single Lap Shear Creep and Constant Strain Rate Behavior of a Thermoplastic Adhesive," Gordon Research Conference on the Science of Adhesion (Poster Session), New Hampton School, New Hampton, New Hampshire, August 1985 (Invited, expenses paid).
16. Sancaktar, E., Jozavi, H., El-Mahallawy, A.H., Cenci, N.A., "Application and Limitations of the Flexural Creep Test for Polymeric Materials," Spring Conference on Experimental Mechanics, Las Vegas, Nevada, June 1985.

15. Sancaktar, E. and Baldwin, J., "An Experimental Investigation of Mixed-Mode Fracture in Adhesively Bonded Joints," Eighth Annual Meeting of the Adhesion Society, Savannah, Georgia, February 1985.
14. Sancaktar, E., "Material Characterization of Structural Adhesives in the Lap Shear Mode," International Adhesion Conference, University of Nottingham, England, September 12-14, 1984.
13. Sancaktar, E., "Materials Evaluation Using Lap Shear Tests," Virginia Polytechnic Institute and State University Center for Adhesion Science Workshop, Blacksburg, Virginia, April 29-May 2, 1984.
12. Sancaktar, E. and Schenck, S.C., "Temperature Dependent Creep Rupture of Structural Adhesives," Southeastern Conference on Theoretical and Applied Mechanics, Pine Mountain, Georgia, May 10-11, 1984.
11. Jozavi, H. and Sancaktar, E., "The Effects of Cure Time and Temperature on the Bulk Fracture Energy of a Structural Adhesive," Seventh Annual Meeting of the Adhesion Society, Jacksonville, Florida, February 1984.
10. Sancaktar, E., "Mechanical Behavior of Solid Film Adhesives with Scrim Carrier Cloth," NATO Advanced Study Institute on Modulated Structure Materials, Crete, Greece, June 1983 (Invited, expenses paid).
9. Sancaktar, E., Jozavi, H., "Rate and Time Dependent Stress Concentration in Double Lap Joints," Sixth Annual Meeting of the Adhesion Society, Savannah, Georgia, February 1983.
8. Sancaktar, E., Schenck, S.C., "Material Characterization of Structural Adhesives in the Lap Shear Mode," Sixth Annual Meeting of the Adhesion Society, Savannah, Georgia, February 1983.
7. Sancaktar, E., Jozavi, H. and Klein, R.M., "The Effects of Cure Temperature and Time on the Bulk Tensile Properties of a Structural Adhesive," Fifth Annual Meeting of the Adhesion Society, Mobile, Alabama, February 1982.
6. Sancaktar, E. and Padgilwar, S., "The Effects of Inherent Flaws on the Time and Rate Dependent Failure of Adhesively Bonded Joints," 1981 ASME Failure Prevention and Reliability Conference, Hartford, Connecticut, September 1981.
5. Sancaktar, E. and Lawry, P., "A Photoelastic Study of the Stress Distribution in Adhesively Bonded Joints with Prebent Adherends," 3rd Annual Meeting of the Adhesion Society, Savannah, Georgia, February 1980.
4. Sancaktar, E. and Brinson, H.F., "The Viscoelastic Shear Behavior of a Structural Adhesive," ACS/CSJ, International Conference on Adhesion and Adsorption of Polymers, Honolulu, Hawaii, April 1979.

3. Sancaktar, E., Dwight, D.W. and Brinson, H.F., "Practical Characterization of a Structural Epoxy Adhesive," 2nd Annual Meeting of the Adhesion Society, Savannah, Georgia, February 1979.
2. Sancaktar, E., Brinson, H.F. and Dwight, D.W., "Fracture Surface Studies of Single Lap Joints Bonded with a Viscoelastic Adhesive," Virginia Academy of Science 56th Annual Meeting, Blacksburg, Virginia, May 1978.
1. Sancaktar, E. and Brinson, H.F., "The Shear Behavior of a Viscoelastic Structural Adhesive," 1977 SESA Spring Meeting, Dallas, Texas, May 1977.

**RESEARCH AND THESIS ADVISING :**

**(47 Graduates; 10 Ph.D., 37 M.S., overall total is 61):**

**A) As Principal Thesis Advisor At The University of Akron:**

36. Gao, Tongzhai, Ph.D., "Manufacturing Nano Porous Membranes Using Self-Assembled Block Copolymer Masks" (in progress).
35. Chang, I. -Ta, Ph.D., "Excimer Laser Ablation of Polymer-Clay Nanocomposites" (in progress).
34. Karmarkar, U. P., Ph.D., "Novel Honeycomb Sandwich Structure Designs for Improved Performance in Composite Applications" (in progress).
33. Reagan, M. A., M.S., "Electric Charging and Nanostructure Formation in Polymeric Films Using Combined Amplitude-Modulated Atomic Force Microscopy Assisted Electrostatic Nanolithography and Electric Force Microscopy" (co-advising with Prof. S. Lyuksyutov) (in progress).
32. Hirano, T., M.S., "Liquid Phase of Styrene Butadiene Rubber Thin Films Induced by Electrostatic Nanolithography" (co-advising with Prof. S. Lyuksyutov) (in progress).
31. Park, D., Ph.D., "Self-Assembled Patterns of Block Copolymer/Homopolymer Blends (completed, April, 2008).
30. Ahn, D. U., Ph.D., "Well Aligned 3-Dimensional Self-Assembly in Block Copolymers and their Nanotechnological Applications" (completed, December, 2007).
29. Zhou, J., Ph.D., "Generic Circuits by Conductive Adhesives: Geometrical, Rheological and Processing Considerations" (completed, May, 2007).

28. Aussawasathien, D., Ph.D., “Electrospun Conducting Nanofiber-Based Materials and Their Characterizations: Effects of Fiber Characteristics on Properties and Applications” (completed, April, 2006).
27. Paramonov, P. B., Ph.D., “Nanostructure Formation in Soft Condensed Matter Using Atomic Force Microscopy” (co-advising with Prof. S. Lyuksyutov) (completed, June, 2005).
26. Kuznicki, J., M.S., “Water Uptake and Fracture Behavior of Epoxy-Clay Nanocomposites Used for Bonding Granite” (completed, May, 2005).
25. Kim, J., Ph.D., “A Study of Structure Formation on PET, PBT and PS Surfaces by Excimer Laser Ablation” (completed, November, 2004).
24. Fong, R. D., M.S., “Nonlinear Finite Element Analysis of Compressive Stress Relaxation in Ethylene/Acrylic Elastomer (AEM)” (completed, November, 2004).
23. Rottmayer, C., M.S., “Optimization of Epoxy Bonding to Granite Based on Fracture Considerations” (completed, May, 2004).
22. Adwani, S. S., M.S., “Use of the Excimer Laser in Evaluation of Processing Effects in Injection Molded PS and PC” (completed, November, 2003).
21. Negandhi, N., M.S., ., “Use of the Excimer Laser in Evaluation of Processing Effects in Injection Molded PET and PBT” (completed, November, 2003).
20. Sudhindrakumar, G. P., M.S., “A Novel Economical Method to Improve the Toughness of Carbon-Epoxy Long Fiber Components by the Integration of Glass Tow Loops Core” (completed, October, 2003).
19. Asiri, A. Y., M.S. "A Novel Economical Method to Improve the Toughness of Carbon/Epoxy Long Fiber Components by the Integration of Carbon/Epoxy Tow Loops Core" (completed, May, 2003).
18. Rajput, P., M.S., “Long Term Migration Effects on the Pull-Out Strength of Silver Wire Embedded in an Adhesive Matrix” (completed, October, 2002).
17. Gomatam, R. R., Ph.D., “Modeling Fatigue Behavior of Electronically Conductive Silver Filled Adhesive” (completed, October, 2002).
16. Schauber, D., M.S., “The Behavior of Filament-wound Carbon Fiber/Epoxy Composite Tubes under Axial Compression” (completed, May, 2002).
15. Teli, S., M.S., “Stress States and Interference in Double Adhesive Layer Scarf and Butt Joints” (completed, May 2002).

14. Lu, H., M.S., “The Influence of Excimer Laser Irradiation on the Morphology, Ablation Rate, Thermal Properties, and Ultrasonic Welding Strength of Thermoplastic Polymers” (completed, December 2001).
13. Bai, L., M.S., “The Effects of Filler Volume Fraction, and Film Thickness on Resistivity of Conductive Adhesives” (completed in September 2001).
12. Nirantar, P., M.S., “Optimization of Adhesively Bonded Single Lap Joints by Tapering of Adherends” (completed in April 2001).
11. Shah, N., M.S., “Design and Filament Winding of Composite Shield for Jet Engine Fan Blade Containment” (completed in March 2001).
10. Walker, E. J., M.S., “Effect of Fillers on Ultrasonic Welding of Polypropylene” (completed in November 2000).
9. Liu, C., M.S., “Chemical and Viscoelastic Effects on Electrical Conduction by Emeraldine Salt in Powder and Composite Adhesive Forms” (completed in November 2000).
8. Khanolkar, A., M.S., “Effect of Interfacial Weight Loss by Silver Migration on the Pull-out Strength of Silver Wire Embedded in an Adhesive Matrix” (completed in July, 2000).
7. Lopez, T. E. G., M.S., “Ablation and Adhesion Behavior Evaluation of Polypropylene Backed Pressure Sensitive Adhesive Tapes Using the Excimer Laser” (completed in May 2000).
6. Karmarkar, U. P., M.S., “Mechanical Adhesion Analysis of Multi-stepped Double Scarf Joints with Void, and Disbond Effects” (completed in April 2000).
5. Sunthonpagasit, N., M.S., “Improving Ultrasonic Weld Strength of Polypropylene by Joint Design, Polar Additives, and by the Methods of Excimer Laser, and Solvent Treatment” (completed in January, 2000).
4. Gowrishankar, S. K., M.S., “Stiffness and Vibrational Behavior, and Design of Composite Cylindrical Helical Springs Manufactured Using Filament Winding” (completed in December, 1999).
3. Simmons, S., M.S., “Optimization of Adhesively Bonded Single Lap Joints by Adherend Notching” (completed in April, 1999).
2. Kumar, S., M.S., “Selective Use of Rubber Toughening to Optimize Lap Joint Strength” (completed in November, 1998).
1. Narayan, K., M.S., “A Unified Approach to Mechanical Adhesion by Finite Element Analysis of Straight Sections” (completed in May, 1998).

**B) As Principal Thesis Advisor At Clarkson University:**

16. Ma, W., Ph.D., " A Novel Mathematical Procedure to Evaluate the Effects of Surface Topography on the Interfacial State of Stress " (completed in April 2001).
15. Wei, Y., Ph.D., "Electronically Conductive Adhesives: Conduction Mechanisms, Mechanical Behavior and Durability" (completed in 1995).
14. O'Brian, K., M.E., "FEA Applications in Composites Design" (completed in 1994).
13. Zhang, E., M.S., "Laser Ablation Surface Treatment of Metal Substrate Surfaces for Improved Adhesion" (completed in 1994).
12. West, M., M.S., "Design of Composite Trails for M198 Howitzer" (completed in 1993).
11. Zhang, P., M.S. "Nonlinear Viscoelastic Modelling of the Fiber-Matrix Interphase in Composite Materials" (completed in 1990).
10. Ma, W., M.S. "Electric Resistive Heat Curing of the Fiber-Matrix Interphase" (completed in 1990).
9. Baechtler, D., M.S. "The Effect of Stress Whitening on Water Diffusion in Thermoset Polymer Materials" (completed in 1990).
8. Baldwin, J., M.S. "Mixed-Mode Fracture in Adhesively Bonded Joints Under Monotonic Loading" (completed in 1989).
7. Tang, J., M.S. "Mixed-Mode Fracture in Adhesively Bonded Joints Under Cyclic Loading" (completed in 1987)
6. Jozavi, H., Ph.D., "The Effects of Cure Temperature and Time on the Strain Energy Release Rate and Bulk Tensile Properties of a Structural Adhesive" (completed in 1987).
5. Dembosky, S.K., M.S., "The Effects of Molecular Weight on the Single Lap Shear Creep and Constant Strain Rate behavior of a Thermoplastic Adhesive" (completed in 1985).
4. Cenci, N.A., "M.S., "Geometrical and Material Nonlinearities in Single Lap Joints Bonded with Thermoplastic Adhesives" (completed in 1983).
3. Schenck, S.C., M.S., "The Rate, Time and Temperature Dependent Material Characterization of Three Structural Adhesives in the Lap Shear Mode" (completed in 1983).
2. Klein, R.M., M.S., "The Effects of Cure Temperature and Time on the Bulk Tensile Properties of a Structural Adhesive" (completed in 1982).

1. Padgilwar, S., M.S., "The Rate and Time Dependent Material Characterization of LARC-3 Structural Adhesive" (completed in 1981).

### **C) Visiting Scholars:**

#### **At University of Akron:**

8. Dr. Semsettin Temiz (Associate Prof.), Ataturk University, Turkey, July 2008 to Jan. 2009.
7. Dr. Takashi Kobayashi (Associate Prof.), Numazu College of Technology, Japan, March 2005 to Dec. 2005.
6. Dr. Vebil Yildirim (Professor), Cukurova University, Turkey, Sept. 1997 to Sept. 1998; Jan. to March 1999; Jan. to Feb. 2000.

#### **At Clarkson University:**

5. Dr. Nursel Dilsiz, Middle East Technical University, Turkey, March 1995 to March 1996.
4. Dr. Ikram Ul Haq (advised with Dr. E. Matijevic'), Nat'l Cent. of Excellence in Phys. Chemistry, University of Peshawar, Pakistan, Sept. 1992 to Jan. 1993.
3. Dr. A. Turgut, Firat University, Turkey, April 1989 to March 1990.
2. Mr. S. J. Chun, Yeungnam University, Korea, March 1989 to May 1989.
1. Mr. G. Fei, Jinzhou Institute of Tech., People's Rep. of China, Sept. 1987 to Nov. 1988.

### **D) Thesis Committees Served at the University of Akron (56)**

Carrillo, A.,	Ph.D., 5-08	Pathak, K. A	Ph.D., 5-08.
Chakraborty, R.	Ph.D., 1-08	Opalko, R.,	M.S., 2-08
Sun, X.	Ph.D., 4-07	Du, L.	Ph.D. 1-08
Jeung, S.,	Ph.D., 1-05	Sujan, B.,	M.S. 2-05
Hong, C.-M.	Ph.D., 11-04	Kwon, K.,	Ph.D. 12-04
Hassan, M. K.	Ph.D. 3-04	Wang, D.,	Ph.D. 11-04
Sen, T. Z.,	Ph.D. 4-03	Al-Munif, M.,	M.S. 9-03
Benes, M.,	M.S. 7-02	Shin, J. W.,	Ph.D. 4-03
Shim, S. E.,	Ph.D. 6-02	Suppiah, G.,	M.S. 7-02
Hindi, R. M.	M.S. 7-01	Koombhongse, P.,	Ph.D. 8-01
Choi, K. W.,	Ph.D. 4-01	Choi, J.-H.	Ph.D. 4-01
Serhatkulu, T.,	Ph.D. 11-00	Wei, J. H.,	Ph.D. 1-01
Puatrakul, T.,	Ph.D. 11-00	Agarwal, S.,	M.S. 11-00
Doni, S.,	M.S. 7-00	Zook, C.,	Ph.D. 11-00
Gaddam, K. M.,	Ph.D. 4-00	Choi, C. H.,	Ph.D. 4-00

Cardenas, S. C.,	M.S.	12-99	Rubino, E.,	M.S.,	3-00
Fong, K.,	M.S.,	10-99	Yu, L.,	M.S.,	10-99
Panchal, J.,	M.S.,	4-99	Suri, A.,	M.S.,	4-99
Sweden, C. V.,	M.S.,	4-99	Beers, A. G.,	M.S.,	4-99
Halhore, R.,	M.S.,	12-98	Guo, X.,	Ph. D.,	2-99
Siddhamalli, S.,	M.S.,	4-98	Joshi, P.,	Ph. D.	10-98
Kim, K.-J.,	Ph.D.,	3-98	Tapale, M.,	M.S.,	1-98
Zhou, X.,	Ph.D.,	12-97	Wang, L.,	M.S.	12-97
Ayrom-Keuchel, H.,	Ph.D.,	10-97	Diao, B.,	M.S.,	10-97
Kadota, M.,	M.S.,	10-97	Galle, F.,	M.S.,	8-97
He, F.,	M.S.,	8-97	Ha, S.-K.,	M.S.,	5-97
Hu., J. P.,	M.S.,	12-96	Chang, M.-C.,	M.S.,	8-96
Demiray, M.,	M.S.,	5-96	Chen, H.,	M.S.	4-96