

## PERSONAL INFORMATION

- Name : Şebnem Özüpek
- Date of Birth : July 12, 1963
- Address : Boğaziçi University, 34342 Bebek, Istanbul, Turkey
- Telephone : ++90 - 212 - 358 1540 - 2354
- Fax : ++90 - 212 - 287 2456
- E-mail : ozupek@boun.edu.tr
- Homepage : <http://www.me.boun.edu.tr/~ozupek>

## PROFESSIONAL EXPERIENCE

- September, 2001 to present Assistant Professor, **BOĞAZIÇI UNIVERSITY**, Department of Mechanical Engineering, Istanbul, Turkey
- May, 1998 to August, 2001 Post-doctoral Research Fellow, **THE UNIVERSITY OF TEXAS AT AUSTIN**, Department of Aerospace Engineering and Engineering Mechanics, Austin, Texas, U.S.A.

Finite element modeling of defect simulation in pneumatic tires: research involves modeling and computational analysis of tires under various loading conditions. Initiation and growth of flaws are modeled and studied with the objective of predicting fatigue life behavior of the tire.

- June, 2000 to August, 2001 Lecturer, **THE UNIVERSITY OF TEXAS AT AUSTIN**, Department of Aerospace Engineering and Engineering Mechanics, Austin, Texas, U.S.A.
- September, 1995 to December, 1997 Post-doctoral Research Fellow, **THE UNIVERSITY OF CALIFORNIA, SAN DIEGO** Institute for Mechanics and Materials, La Jolla, California, U.S.A.

Mechanical representation of bovine pericardium as a heart-valve leaflet tissue: research included testing of pericardium tissue and evaluation of various constitutive models based on the test results. The models were implemented in a finite element code so that computational analysis of heart-valve prostheses can be performed.

- September, 1989 to May, 1995 Research Assistant, **THE UNIVERSITY OF TEXAS AT AUSTIN**, Department of Aerospace Engineering and Engineering Mechanics, Austin, Texas, U.S.A.

Mechanical behavior of Space Shuttle redesigned solid rocket motor propellant: research included development of constitutive modeling of propellants as nonlinear viscoelastic and damaging materials. The model was implemented in a finite element code and computational analysis of the rocket motor was performed. The model is currently being used in the industry.

- February, 1987 to July, 1987 Research Assistant, **ISTANBUL TECHNICAL UNIVERSITY**, Department of Aeronautics and Astronautics, Istanbul, Turkey
- July, 1985 to September, 1985 Researcher on Advanced Composites, **DELFT UNIVERSITY OF TECHNOLOGY**, Department of Aerospace Engineering, Delft, the Netherlands
- July, 1984 to September, 1984 Trainee on electrical and plumbing systems, **HYDRO-ELECTRIC POWER STATION OF DJERDAP**, Yugoslavia
- July, 1983 to September, 1983 Trainee on aircraft maintenance, **TURKISH AIRLINES MAINTENANCE CENTER** Istanbul, Turkey

## EDUCATION

- **Ph.D.**                      **THE UNIVERSITY OF TEXAS AT AUSTIN**, Department of Aerospace Engineering and Engineering Mechanics, Austin, Texas, U.S.A.  
September, 1989  
to August, 1995
- **M.S.**                      **THE UNIVERSITY OF TEXAS AT AUSTIN**, Department of Aerospace Engineering and Engineering Mechanics, Austin, Texas, U.S.A.  
September, 1987  
to August, 1989
- **B.S.**                      **ISTANBUL TECHNICAL UNIVERSITY**, Department of Aeronautics and Astronautics, Istanbul, Turkey  
September, 1982  
to June, 1986

## SCHOLARSHIPS, FELLOWSHIPS, HONORS

- 1995 - 1997              Institute for Mechanics and Materials Post-Doctoral Fellowship, University of California, San Diego, \$35,640/year
- 1989 - 1992              Zonta International Amelia Earhart Fellowship, \$6,000/year
- 1987 - 1989              Fulbright Scholarship, \$26,000
- 1986                      Third place prize at graduation from Istanbul Technical University

## CREATIVE PRODUCTS

### Thesis

- **Şebnem Özüpek**, "Constitutive Modeling of High Elongation Solid Propellants", Master's thesis, University of Texas at Austin, pp. xi + 85, August 1989

### Dissertation

- **Şebnem Özüpek**, "Constitutive Equations for Solid Propellants", Dissertation, University of Texas at Austin, pp. xiii + 120, August 1995

### Publications

- **Şebnem Özüpek**, Eric B. Becker, "Constitutive Modeling of High Elongation Solid Propellants", Journal of Materials and Technology, Vol.114, pp.111-115, 1992
- **Şebnem Özüpek**, Eric B. Becker, "Constitutive Equations for Solid Propellants", Journal of Materials and Technology, Vol.119, pp.125-132, 1997
- **Şebnem Özüpek**, Hengchu Cao, "Constitutive Modeling of Pericardium", International Journal of Cardiovascular Medicine and Science, Vol.1, pp. 122, 1997
- Marcelo Canga, Eric B. Becker, **Şebnem Özüpek**, "Constitutive Modeling of Viscoelastic Materials with Damage - Computational Aspects", Computer Methods in Applied Mechanics and Engineering, Vol.190, pp.2207-2226, 2001
- **Şebnem Özüpek**, Hengchu Cao, "The Effect of Anisotropy on Bovine Pericardial Tissue with Stress Concentration", submitted to Journal of Biomechanical Engineering, 2000

## **Presentations**

- **Şebnem Özüpek**, "Constitutive Modeling of High Elongation Solid Propellants", Thiokol University IR&D Meeting, Ogden, Utah, U.S.A., June 1990
- **Şebnem Özüpek**, "Two Simple Phenomenological Constitutive Models for Damaged Solid Propellants", Thiokol University IR&D Meeting, Ogden, Utah, U.S.A., June 1991
- **Şebnem Özüpek**, "Stability Analysis of Hyperelastic and Nonlinear Viscoelastic Materials", Thiokol University IR&D Meeting, Ogden, Utah, U.S.A., June 1992
- Eric B. Becker, Trent Miller, **Şebnem Özüpek**, "Stability of Constitutive Models", Rubbercon'95, Gothenburg, Sweden, May 1995
- **Şebnem Özüpek**, "Nonlinear Behavior of Solid Propellants", Agard Working Group 25 Meeting, Istanbul, Turkey, May 1996
- **Şebnem Özüpek**, "Constitutive Modeling of Pericardium", Computational Biology of the Heart, San Diego, CA , U.S.A., June 1997
- **Şebnem Özüpek**, "Mechanical Behaviour of Bovine Pericardium as a Heart Valve Tissue", Biomedical Engineering Society Fall Meeting, San Diego, CA , U.S.A., October 1997
- **Şebnem Özüpek**, Eric B. Becker, "Finite Element Method for the Study of Belt Edge Delaminations in Truck Tires", The Twentyfirst Annual Meeting and Conference on Tire Science and Technology, Akron, OH, U.S.A., September 2002

## **LANGUAGE BACKGROUND**

- English                      Excellent knowledge of reading, writing, speaking
- Italian                        Excellent knowledge of reading, writing, speaking
- French                        Good knowledge of reading, writing, speaking
- Turkish                        Excellent knowledge of reading, writing, speaking (native)