# HAKAN TANRIÖVER

Department of Mechanical Engineering, Çankaya University

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EDUCATION	
<b>Ph.D. in Mechanical Engineering</b> Istanbul Technical University, Turkey	2006
Research Area: Dynamic Nonlinear Behavior of Composite Plates	
A computer code was developed in <i>Mathematica</i> to analyze the dynamic large of behavior of composite plates. The Galerkin and the Newton-Raphson methods are e with Newmark direct time integration scheme.	
<b>M.Sc. in Mechanical Engineering</b> Istanbul Technical University, Turkey	2000

B.Sc. in Mechanical Engineering

Istanbul Technical University, Turkey

#### **RESEARCH INTERESTS**

Finite Elements Method, Composite Materials and Structures, Variable Stiffness, Structural Optimization, Constitutive Relations, Dynamic Behavior of Materials, Contact and Impact Mechanics, Mechanics of Energy Storage Materials.

#### CURRENT PROFESSIONAL APPOINTMENT

#### **Assistant Professor**

Çankaya University, Faculty of Engineering

#### PREVIOUS PROFESSIONAL APPOINTMENTS

#### Visiting Assistant Professor

Brown University, School of Engineering

Worked on mechanical behavior of Li-ion battery materials with Prof. Brian Sheldon and Prof. Allan Bower.

## Assistant Professor of Mechanical Engineering

Istanbul Technical University, Turkey

Hakan Tanrıöver, Curriculum Vitae

2015-

15-

1998

2012-2015

#### Postdoctoral Research Scholar

Duke University Durham, NC

Worked on 3-D beam formulation and the nonlinear response of 3d-beam is investigated using a developed *Mathematica* code.

# Instructor

Turkish Military Academy, Ankara

**Graduate Research Assistant** Mechanical Engineering Department Istanbul Technical University, Turkey

#### TEACHING

Teaching Assistant1998-2006; 2007-2009Mechanical Engineering Department, Istanbul Technical University, Turkey

Assisted Courses: Dynamics, Finite Element Methods, Mechanics of Structures

#### Instructor

Turkish Military Academy, Ankara, Turkey

Courses: Material Science, Manufacturing Technologies, Dynamics

#### Lecturer (Assistant Professor)

Mechanical Engineering Department, Istanbul Technical University, Turkey

Courses: Dynamics, Introduction to Mechanical Design, Statics, Engineering Mechanics

*Fall 2009-2010:* DNK 203 Dynamics – 40 students

*Spring 2009-2010:* IML 242 Introduction to Mechanical Design – 17 students STA 201 Statics – 50 students

*Fall 2010-2011:* DNK 201 Dynamics – 40 students DNK 203 Dynamics – 42 students MEK 205 Engineering Mechanics – 64 students

*Spring 2010-2011:* IML 242 – Introduction to Mechanical Design (2 sections) – 65 students STA 201 Statics – 47 students

*Fall 2011-2012:* DNK 203 Dynamics – 34 students

2006-2007

1998 - 2006

2006-2007

2009-2012

2

## ADMINISTRATIVE EXPERIENCE

**Committee member of ABET** at Mechanical Engineering Department, Istanbul Technical University (2010-2012).

Performed statistical analyses on faculty and course evaluation data.

### HONORS AND AWARDS

**TUBITAK** (The Scientific & Technological Research Council of Turkey) **Postdoctoral Research Scholarship** at Pratt School of Engineering, Duke University. November 2007-July 2008

#### **RESEARCH PROJECTS**

# Istanbul Technical University Funded R&D Projects Researcher

Constitutive Relations for Elastic/Plastic Solids (2002-2003), Modeling and Investigation of Dynamical Behavior of Elastic-Plastic Solids (2004-2005), Experimental Investigation of Materials under Dynamic Loads (A Hopkinson Bar Test Set-up was designed and built) (2005-2006).

# KOSGEB (Turkey Ministry of Industry and Trade) Funded Project Consultant

Research, development and manufacturing of blades used in textile machines (2004-2005).

#### **COMPUTER EXPERIENCE**

Languages: FORTRAN Packages: MATHEMATICA, MATLAB, ANSYS, MSC/NASTRAN, ABAQUS, SOLIDWORKS Microsoft Office Applications (Fluent in Word, Excel, PowerPoint)

#### PUBLICATIONS

- [1] Tanriöver, H. and Sheldon, B.W., The impact of compositionally induced residual stress on electrochemical shock in battery electrode particles, Journal of The Electrochemical Society, 162(7), A1282-8, 2015.
- [2] Tanriöver, H. and Senocak, E., Nonlinear transient analysis of moderately thick rectangular composite plates, The Aeronautical Journal, 114 (1157), pp. 437-44, 2010.
- [3] Tanriöver, H. and Senocak, E., A FEA Application for 3-D Nonlinear Dynamic Behavior of

Beams (in Turkish), TUMTMK XVI. UMK, Kayseri-Turkey, 22-26 July 2009.

- [4] Senocak, E. and Tanriöver, H., Analysis of composite plates with variable stiffness using Galerkin method, The Aeronautical Journal, April, pp. 247-55, 2007.
- [5] Tanriöver, H. and Senocak, E., Nonlinear transient analysis of rectangular composite plates, Proceedings of the 7th International Conference on Vibration Problems (ICOVP 2005), Sile/Istanbul,Turkey, September 5-9, 2005.
- [6] Tanriöver, H. and Senocak, E., Large deflection analysis of moderately thick composite plates, Proceedings of Computer Methods in Mechanics (CMM-2005), Czestochowa, Poland, June 21-24 2005.
- [7] Tanriöver, H. and Senocak, E., Large deflection analysis of unsymmetrically laminated composite plates: analytical-numerical type approach, Int. J. Non-Linear Mechanics, 39 8, pp. 1385-92, 2004.