

## **CURRICULUM VITAE**

### **TOLGA AKIŞ, Ph.D.**

Atılım University, Department of Civil Engineering  
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### **PERSONAL INFORMATION**

Birth Date : 27.03.1971  
Birth Place : Ankara  
Nationality : Turkish  
Marital Status : Married  
TR ID Number : 12463110592

### **EDUCATION**

#### **Doctor of Philosophy (Ph.D.)**

Middle East Technical University  
Department of Engineering Sciences-2004

#### **Master of Science (M.S.)**

Middle East Technical University  
Department of Engineering Sciences-1997

#### **Bachelor of Science (B.S.)**

Middle East Technical University  
Department of Civil Engineering-1993

### **RESEARCH INTERESTS**

Computational mechanics  
Structural modelling  
Numerical methods

### **ACADEMIC WORK EXPERIENCE**

2011 – present	Associate Professor Department of Civil Engineering-Atılım University
2004 – 2011	Assistant Professor Department of Civil Engineering-Atılım University
2001 – 2004	Instructor Department of Civil Engineering-Atılım University

### **INDUSTRIAL WORK EXPERIENCE**

2000 – 2001	Nakel Engineering Company Civil Engineer
1998 – 1999	Yüksel Construction Company Civil Engineer-Borçka and Muratlı Dam and HEPP Project
1994 – 1996	Yüksel Construction Company Technical Office Engineer - Ankara Central Wastewater Treatment Plant Project

### **ADMINISTRATIVE DUTIES**

Head, Civil Engineering Department, Atılım University (2013-2017)  
Member, Faculty of Engineering Administrative Board, Atılım University (2009-present)  
Head, Civil Engineering Graduate Program, Atılım University (2013-2017)  
Head, Tunneling and Undergraduate Structures Graduate Program, Atılım University (2014-2017)

## **COURSES TAUGHT**

### **Postgraduate Level**

CE 566 Advanced Mathematical Methods in Civil Engineering

### **Undergraduate Level**

E 101 Engineering Fundamentals

CE 102 Introduction to Civil Engineering

CE 201 Basic Mechanics I - Statics

CE 202 Basic Mechanics II - Dynamics

CE 204 Mechanics of Materials

CE 210 Civil Engineering Materials

CE 319 Numerical Methods

CE 421 Applied Solid Mechanics

CE 424 Structural Systems

CE 431 Computer Applications in Structural Engineering

CE 490 Civil Engineering Design Project

MIM 207 Statics and Strength of Materials (Department of Architecture, Atılım University)

MIM 208 Statics (Department of Architecture, Atılım University)

ANR 246 Lifeguarding (Faculty of Sports Sciences, Hacettepe University)

## **PUBLICATIONS**

### **Theses (Unpublished)**

Akış T., 2004. Lateral load analysis of shear wall-frame structures. Ph.D. Thesis. Middle East Technical University, Department of Engineering Sciences, Ankara, Turkey.

Akış T., 1997. Experimental and analytical investigation of the biomechanics of crawl stroke swimming. M.S. Thesis. Middle East Technical University, Department of Engineering Sciences, Ankara, Turkey.

### **SCI/SCI Expanded Journal Articles**

Azad S.K., Akış T., 2016. Automated selection of optimal material for pressurized multi-layer composite tubes based on an evolutionary approach. *Neural Computing and Applications*, doi:10.1007/s00521-016-2563-6.

Baran E., Akis T., Sen G., Draisawi A., 2016. Experimental and numerical analysis of a bolted connection in steel transmission towers. *Journal of Constructional Steel Research* 121, 253-260.

Eraslan A.N., Akis T., 2012. Amendments on "Application of Mises yield criterion to rotating solid disk problem" by N. Aleksandrova [Int. J. Eng. Sci. 51 (2012) 333-337]. *International Journal of Engineering Science* 56, 127-128.

Baran E., Akis T., Yesilmen S., 2012. Pull-out behavior of prestressing strands in steel fiber reinforced concrete. *Construction and Building Materials* 28, 362-371.

Akis T., Tokdemir T., Yilmaz C., 2009. Modeling of asymmetric shear wall-frame building structures. *Journal of Asian Architecture and Building Engineering* 8, 531-538.

Akis T., 2009. Elastoplastic analysis of functionally graded spherical pressure vessels. *Computational Materials Science* 46, 545-554.

Eraslan A.N., Akis T., 2008. Discussion of the article "Approximate solution of limit angular speed for externally loaded rotating solid disk" by S. Bhowmick, D. Misra and N.K. Saha [Int J Mech Sci 2008; 50:163-74]. *International Journal of Mechanical Sciences* 50, 1432-1433.

Akis T., Eraslan A.N., 2007. Exact solution of rotating FGM shaft problem in elastoplastic state of stress. *Archive of Applied Mechanics* 77, 745-765.

Eraslan A.N., Akis T., 2006. Plane strain analytical solutions for a functionally graded elastic-plastic pressurized tube. *International Journal of Pressure Vessels and Piping* 83, 635-644.

Eraslan A.N., Akis T., 2006. The stress response of partially plastic rotating FGM hollow shafts: Analytical treatment for axially constrained ends. *Mechanics Based Design of Structures and Machines* 34, 241-260.

Akis T., Eraslan A.N., 2006. The stress response and onset of yield of rotating FGM hollow shafts. *Acta Mechanica* 187, 169-187.

Eraslan A.N., Akis T., 2006. On the plane strain and plane stress solutions of functionally graded rotating solid shaft and solid disk problems. *Acta Mechanica* 181, 43-63.

Eraslan A.N., Akis T., 2005. Yielding of two-layer shrink-fitted composite tubes subject to radial pressure. *Forschung im Ingenieurwesen* 69, 187-196.

Akis T., Orcan Y., 2004. Experimental and analytical investigation of the mechanics of crawl stroke swimming. *Mechanics Research Communications* 31, 243-261.

Eraslan A.N., Akis T., 2003. On the elastic-plastic deformation of a rotating disk subjected to a radial temperature gradient. *Mechanics Based Design of Structures and Machines* 31, 529-561.

### **Other Journal Articles**

Akış T., 2017. On the yielding of two-layer composite spherical pressure vessels. *Politeknik Dergisi* 20 (in press).

Eraslan A.N., Akis T., Akis E., 2016. Deformation analysis of two-layer composite tubes under cyclic loading of external pressure. *Journal of Basic and Applied Research International* 13, 107-119.

Eraslan A.N., Akis T., 2015. Analytical solutions to elastic functionally graded cylindrical and spherical pressure vessels. *Journal of Multidisciplinary Engineering Science and Technology* 2, ISSN: 3159-0040.

Eraslan A.N., Akis T., 2015. Stress analysis in strain hardening two-layer composite tubes subject to cyclic loading of internal pressure. *International Journal of Advances in Applied Mathematics and Mechanics* 3, 65-76.

Akış T., Eren Ö., 2015. Radyal yönde basınç uygulanan fonksiyonel derecelendirilmiş malzemeden yapılmış uzun tüplerde von Mises kriterine göre akmanın başlaması. *Politeknik Dergisi* 18, 63-71.

Alkan N., Akis T., 2013. Psychological characteristics of free diving athletes: A comparative study. *International Journal of Humanities and Social Science* 3, 150-157.

Eraslan A.N., Akış T., 2007. Numerical solutions of a simplified reactive flow model. *Arı the Bulletin of the Technical University of Istanbul* 54, 69-75.

Akış T., 2006. Isı etkisi altındaki fonksiyonel derecelendirilmiş malzemeden yapılmış uzun tüplerde plastik akmanın başlaması. *Gazi Üniversitesi Müh. Mim. Fak. Dergisi* 21, 737-743.

Eraslan A.N., Akış T., 2005. Elastoplastic response of a long functionally graded tube subjected to internal pressure. *Turkish Journal of Engineering and Environmental Sciences* 29, 361-368.

Akış T., Eraslan A.N., 2005. Radyal yönde basınç uygulanan konsentrik uzun tüplerde von Mises akma kriterine göre akmanın başlaması. *Gazi Üniversitesi Müh. Mim. Fak. Dergisi* 20, 365-372.

Eraslan A.N., Akış T., 2004. Deformation analysis of elastic-plastic two layer tubes subject to pressure: An analytical approach. *Turkish Journal of Engineering and Environmental Sciences* 28, 261-268.

Akış T., Coşkun S.B., 2003. Boşluklu perde duvar sistemlerin serbest titreşim periyotlarının farklı yöntemlerle hesaplanması. *Gazi Üniversitesi Fen Bilimleri Dergisi* 16, 709-716.

### **International Conference Proceedings**

Şengönül C.M., Akış T., Dönmez S.S., Özdemir İ., 2016. Cardboard Bicycle. *Proceedings of the 17th International Conference on Machine Design and Production, July 12-15, Bursa, Turkey (Paper ID: 105)*.

Baran E., Mertol H.C., Akis T., 2016. Improvement of mechanical performance in different concrete applications through use of steel fibers. Proceedings of the 4th International Conference on Sustainable Construction Materials and Technologies, August 7-11, Las Vegas, USA.

Baran E., Akis T., Yesilmen S., 2010. Steel fiber reinforced concrete for bond strength enhancement of prestressing strands. Proceedings of the 9th International Congress on Advances in Civil Engineering,, September 27-30, Karadeniz Technical University, Trabzon, Turkey

Akis T., Tokdemir T., Yilmaz C., 2006. On the modeling of nonplanar shear walls in shear wall-frame building structures. Book of Abstracts of the 3rd European Conference on Computational Mechanics, p.100, June 5-9, Lisbon, Portugal (Proceedings CD, ID-2480).

Akis T., Eraslan A.N., 2005. The functionally graded, heat generating elastic-plastic tube: An analytical treatment by Mathematica. Proceedings of the 6th International Congress on Thermal Stresses, Vol. 2, 713-716, May 26-29, Vienna, Austria.

Akiş T., Orçan Y., Eraslan A.N., 2004. Experimental analysis of crawl stroke swimming. Abstract Book of the 10th ICPEP-SD Europe Congress and the TSSA 8th International Sports Science Congress, p.63, November 17-20, Antalya, Turkey (Proceedings CD, 72\_262).

Akiş T., Orçan Y., Eraslan A.N., 2004. Mathematical modelling of crawl stroke swimming. Abstract Book of the 10th ICPEP-SD Europe Congress and the TSSA 8th International Sports Science Congress, p.134, November 17-20, Antalya, Turkey (Proceedings CD, 223\_0264).

Eraslan A.N., Akis T., 2004. Residual stresses in nonlinear strain hardening annular disks of variable thickness subject to external pressure. Abstracts and CD-ROM Proceedings of the 21th International Congress on Theoretical and Applied Mechanics, p.211, August 15-21, Warsaw, Poland.

Eraslan A.N., Argeso H., Akis T., 2003. Stress analysis in heat generating steel-copper tube assembly with rigid casing. Proceedings of the 5th International Congress on Thermal Stresses and Related Topics Vol. 2, VM-511-514, June 6-10, Blacksburg VA, USA.

Eraslan A.N., Akis T., 2003. Stress distribution in a nonlinearly hardening rotating fin. Proceedings of the 5th International Congress on Thermal Stresses and Related Topics Vol. 1, TM-221-224, June 6-10, Blacksburg VA, USA.

### **National Conference Proceedings**

Akiş T., Alkan N., 2016. Elit serbest dalış sporcularının yarışma performanslarını belirleyen faktörler. 19. Sualtı Bilim ve Teknoloji Toplantısı Bildiriler Kitabı, 21-23 Ekim, Sinop Üniversitesi.

Altuntop, M. A., Akiş, T., Güneş, B., 2007. Yumuşak kata sahip binaların deprem güvenliği açısından değerlendirilmesi. 6. Ulusal Deprem Mühendisliği Konferansı Bildiriler Kitabı Cilt 2, 371-382, 16-20 Ekim, İstanbul.

Akiş T., Eraslan A.N., 2007. İç içe geçmiş iki tabakalı basınç tüplerinin kısmen plastik ve çevrimsel yükleme analizi. 15. Ulusal Mekanik Kongresi Bildiriler Kitabı, 47-56, 3-7 Eylül, Isparta.

Akiş T., Eraslan A.N., 2005. Fonksiyonel derecelendirilmiş malzemeden yapılmış uzun tüplerde düzgün olmayan iç ısı üretimi etkisinde plastik akmanın başlaması. 14. Ulusal Mekanik Kongresi Bildiriler Kitabı, 65-73, 12-16 Eylül, Antakya.

Eraslan A.N., Akiş T., 2003. Basitleştirilmiş bir reaktif akış modelinin PARPHEN kodu ile sayısal çözümleri. 13. Ulusal Mekanik Kongresi Bildiriler Kitabı, 359-367, 8-12 Eylül, Gaziantep.

### **CITATIONS**

Citations based on Web of Science (without self-citations): 138 (h-index: 8)

Citations based on SCOPUS (without self-citations): 155 (h-index: 8)

Citations based on Google Scholar: 321 (h-index: 11)

### **THESES SUPERVISED**

Draisawi, A., 2015. Numerical analysis of bolted connections in steel lattice transmission towers. Atılım University, Department of Civil Engineering, Ankara, Turkey.

Tafida, A.K., 2014. Overall cost optimization of a concrete bridge using simulated annealing algorithm. Atılım University, Department of Civil Engineering, Ankara, Turkey.

Coran, A.N.N., 2014. Analytical and numerical investigation of uniformly loaded simply supported circular plates. Atılım University, Department of Civil Engineering, Ankara, Turkey.

Şen, G., 2014. Behavior of bolted tension splice connections in steel lattice overhead transmission line towers. Atılım University, Department of Civil Engineering, Ankara, Turkey.

Atlı, A., 2010. Analytical investigation of multi-layer composite tubes subject to pressure. Atılım University, Department of Civil Engineering, Ankara, Turkey.

Dalkılıç, M., 2009. Yielding of rotating two-layer composite tubes. Atılım University, Department of Civil Engineering, Ankara, Turkey.

Eren, Ö., 2009. Deformation analysis of functionally graded tubes under pressure. Atılım University, Department of Civil Engineering, Ankara, Turkey.

Altıntop, M.A., 2007. Analysis of building structures with soft stories. Atılım University, Department of Civil Engineering, Ankara, Turkey.

### **RESEARCH PROJECT EXPERIENCE**

Supervisor, Filaman ve kağıt sarım makinası tasarımı. Atılım University LAP (Lisans Araştırma Projesi), ATÜ-LAP-A, 2016-2017.

Supervisor, Doğal ve geri dönüşümlü malzemeler ile kuvvetlendirilmiş karton bisiklet. Atılım University LAP (Lisans Araştırma Projesi), ATÜ-LAP-C-1516-06, 2015-2016.

Supervisor, Statik, dinamik ve mukavemet dersleri için aktif öğrenme yöntemlerinin ve araçlarının geliştirilmesi. Atılım University LAP (Lisans Araştırma Projesi), ATÜ-LAP-C-1213-04, 2013-2014.

Project Manager, Investigation of the performance free diving athletes and psychological factors. Atılım University BAP (Bilimsel Araştırma Projesi), ATÜ BAP 2006-01, 2006-2007.

Instructor, Strengthening of coping capacities of populations affected by the Marmara Earthquake. UNDP-ECHO-METU-Turkish Psychologists Society. ECHO-EU-UNDP, 2000-2001.

### **REFEREE FOR INTERNATIONAL JOURNALS**

International Journal of Mechanical Sciences

International Journal of Engineering, Science and Technology

Acta Mechanica

### **PROPOSAL REVIEWS**

Bilim Sanayi ve Teknoloji Bakanlığı Teknogirişim Programı (2012)

TÜBİTAK Teknoloji ve Yenilik Destek Programları-TEYDEB (2010)

TÜBİTAK Bilim ve Toplum Projeleri Destekleme Programı (2010)

### **CONSULTANCIES**

AKYA Yapı, İzmir İnşaat Emlak ve NATO Güvenlik Yatırımları Dairesi Başkanlığı Patlamaya Dayanıklı Kayar Kapı Proje Kontrolü, 2016.

AKYA Yapı, TOKİ Modüler Duvar Yüksek Güvenlikli Kayar Kapı Proje Kontrolü, 2016.

TSA Mühendislik, Eti Maden İşletmeleri Emet Çok Amaçlı Borik Asit Tesisi Yapılarının Proje Kontrolü, 2013.

TSA Mühendislik, Eti Maden İşletmeleri Emet Çok Amaçlı Borik Asit Tesisi Soğutma Suyu Hattı Projesi Kontrolü, 2013.

FNSS Savunma Sistemleri A.Ş., AZMİM (Amfibik Zırhlı İstihkam İş Makinası) Projesi, 2011-2012.

FNSS Savunma Sistemleri A.Ş., SYK (Seyyar Yüzücü Hücum Köprüsü) Projesi, 2011-2012.

DHMi Genel M¼d¼rl¼g¼ İnřaat ve Emlak Dairesi Bařkanlıęı, Sivas Havaalanı elik atı Yapısal Projelerinin Kontrol¼, 2009.

**MEMBERSHIPS**

Turkish Civil Engineering Society

**SPECIAL QUALIFICATIONS**

Lifeguard Instructor

First Aid Instructor

Scuba Diving

Swimming

Cycling

01.02.2017