

## Dr. Volkan İşbuğa

---

<b>INTERESTS</b>	<ul style="list-style-type: none"><li>• Constitutive modeling of soils, nonlinear finite element modeling and finite element code development with emphasis on large deformation plasticity, computational mechanics,</li><li>• Deep foundations (pile-soil interaction modeling) and geotechnical earthquake engineering,</li><li>• Numerical programming based on the finite difference method to solve engineering problems,</li><li>• Casing design against burst, collapse, axial and annular pressure build-up loads and also well control analysis by using StressCheck and WellCat software.</li></ul>
<b>EDUCATION</b>	<p><b>Ph.D. in Civil Engineering, University of Colorado at Boulder, CO, USA</b> 01/2008 - 05/2012 Dissertation Title: Finite strain micromorphic finite element analysis of elastoplastic geomaterials. Advisor: Richard A. Regueiro CGPA:3.97/4.0</p> <p><b>B.S. in Civil Engineering, Cukurova University, Adana, Turkey</b> 09/1997 - 06/2002 CGPA:3.47/4.0</p>
<b>EXPERIENCE</b>	<p><b>Assistant Professor</b> 10/2019 - present Department of Civil Engineering, Izmir Institute of Technology, Izmir, Turkey</p> <p><b>Assistant Professor</b> 01/2016 - 09/2019 Department of Civil Engineering, Hasan Kalyoncu University, Turkey</p> <p><b>Tubular Design Specialist, BP America</b> 12/2013- 06/2015 BP Global Wells Organization, Houston, TX, USA</p> <p><b>Development Manager (Engineer), Abaqus (Simulia)</b> 01/2013-12/2013 Research and Development in Mechanics, Dassault Systemes, Providence, RI ,USA</p> <p><b>Research Associate</b> 05/2012-12/2012 Department of Civil, Environmental, and Architectural Engineering University of Colorado, Boulder, CO, USA</p> <p><b>Graduate Research and Teaching Assistant</b> 01/2008- 05/2012 Department of Civil, Environmental, and Architectural Engineering University of Colorado, Boulder, CO, USA</p> <p><b>Graduate Research and Teaching Assistant</b> 08/2002-01/2008 Department of Engineering Sciences, METU, Ankara, Turkey</p>
<b>TRAININGS AND CERTIFICATIONS</b>	<p>Introduction to Abaqus February, 2013</p> <p>Introduction to Abaqus Scripting April 16-17, 2014</p> <p>Modeling Contact with Abaqus August 6-7, 2014</p> <p>Gulf of Mexico WellCat School March 5-6, 2014</p> <p>Deepwater Drilling Operations March 17-21, 2014</p> <p>Tubing Stress Analysis and WellCat May 12-16, 2014</p> <p>Drill String Design July 7-11, 2014</p> <p>Casing Design August 11-15, 2014</p> <p>Current Trends in Computer Modeling Systems (SAP2000) METU, CSI October 3-8, 2003</p> <p>ANSYS Multiphysics Training, Computer Simulations in Physics and Geometry METU, FIGES March 11-19, 2004</p>

**JOURNAL  
PUBLICATIONS**

1. **Isbuga\*, V.** and Regueiro, R.A. “Finite Element Analysis of Finite Strain Micromorphic Drucker-Prager Plasticity”. *Computers & Structures*, 193,pp. 31-43, 2017.
2. **Isbuga, V.** and Regueiro\*, R.A.“Three-dimensional finite element analysis of finite deformation micromorphic linear isotropic elasticity”, *International Journal of Engineering Science*, Volume 49, Issue 12, December 2011, Pages 1326-1336, ISSN 0020-7225, 10.1016/j.ijengsci.2011.04.006.
3. Regueiro\*, R.A. and **Isbuga, V.** “Length scale effects in finite strain micromorphic linear isotropic elasticity: Finite element analysis of three-dimensional cubical microindentation”. *Journal of Nanoengineering and Nanosystems*, September 2010 224: 101-122, first published on July 29, 2011
4. Asik\*, M. Z. and **Isbuga, V.** “Non Linear Response of a Layered Medium”, *Journal of Vibration and Control*, 9 2007; vol. 13: pp. 1313 - 1320.

**CONFERENCE  
PUBLICATIONS  
AND  
PRESENTATIONS**

1. İşbuğa, V., Çabalar A.F., Abdulnafa M. T.“Large-scale testing of a clay soil improved with concrete pieces”. 6.th International Multicongress April 26-27, 2019, Hasan Kalyoncu Üniversitesi Gaziantep, Turkey.
2. Karabaş B., Akbulut N., Çabalar A.F., İşbuğa, V. “A GIS Based Seismic Soil Classification in Malatya, Turkey”. 6.th International Multicongress April 26-27, 2019, Hasan Kalyoncu Üniversitesi Gaziantep, Turkey.
3. Isbuga, V. “A Mathematical Approach for Modeling Pile-Soil-Pile Interaction for Laterally Loaded Pile Groups in a Linear Elastic Soils”. June 4 - 7, 2017 Conference. EMI 2017 Conference San Diego, California ASCE, Engineering Mechanics Institute.
4. Isbuga V., Mahmood J. M., and Cabalar A. F. “Effect of Mica Content in Sand on Site Response Analyses”. ICCEEEES 2016 :18th Int. Conf. on Civil, Environmental Engineering and Earth Sciences, Aug 04-05, 2016 Amsterdam, The Netherlands.
5. Isbuga, V., Regueiro, R.A. “Finite Strain Micromorphic Finite Element Analysis of Elasto-plastic Geomaterials”. 2012 Joint Conference of the Engineering Mechanics Institute and 11th ASCE Joint Specialty Conference on Probabilistic Mechanics and Structural Reliability (EMI/PMC 2012), 2012, Notre Dame, IN.
6. Isbuga, V ., Regueiro, R.A. “Three-Dimensional Finite Element Analysis of Finite Strain Micromorphic Linear Isotropic Elasticity and Its Extension to the Micromorphic Drucker-Prager Plasticity”. 11th US National Congress on Computational Mechanics, July 25-28, 2011, Minneapolis, MN.
7. Isbuga, V ., Regueiro, R.A. “Finite Strain Micromorphic Elasticity and Its Finite Element Implementation”.16th US National Congress of Theoretical and Applied Mechanics , June 27-July 2010, State College, Pennsylvania, USA
8. Regueiro, R., Isbuga, V., “Total Lagrangian nonlinear finite element analysis of finite strain micromorphic pressure-sensitive elastoplasticity”. 6th European Congress on Computational Methods in Applied Sciences and Engineering September 10-14, 2012 (ECCOMAS 2012) Vienna, Austria
9. Asik, M. Z., Isbuga, V. “A Model for the analysis of Plates on a Layered Elastic Medium”. III European Conference on Computational Mechanics Solids, Structures and Coupled Problems in Engineering, (ECCM-2006). 5-9 June 2006, Lisbon, Portugal.

10. Asik, M. Z., Isbuga, V. "Non Linear Response of a Layered Medium". Chosen to be Published in JVC. Mathematical Methods in Engineering International Symposium, April 27 - 29 , 2006, Cankaya University, Ankara, Turkey

<b>INVITED PRE-SENTATIONS</b>	Norwegian Geotechnical Institute (NGI), Oslo, Norway	03/27/2019
	Plaxis, Delft, Netherlands	01/29/2016
	Los Alamos National Laboratory, Los Alamos, NM	11/25/2015
	The University of Houston, Houston, TX	04/03/2015
	Columbia University, Broadway, NY	04/02/2013
	Lawrence Berkeley National Laboratory, Berkeley, CA	10/30/2011
	Los Alamos National Laboratory, Los Alamos, NM	11/04/2011

**ACADEMIC ACTIVITIES** Journal Article Reviewer for *Journal of Engineering Mechanics, Meccanica, Scientific Reports, and Finite Elements in Analysis & Design*

- AWARDS AND SCHOLARSHIPS**
- Scholarship provided by Chamber of Civil Engineers (freshman year, 1999)
  - Cukurova University scholarship (1999)
  - "Nurullah Dilmac" fellowship by an engineering firm (sophomore and junior years, 2000-2001)
  - TUBITAK 2232 Fellowship (2016)
  - HKU research contribution award (2016)
  - Erasmus+ Staff Mobility supported by European Union