Antonio Bobet
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PUBLICATIONS

Full articles in refereed publications (All articles listed are in 1st tier journals)

1. *Bobet, A. and Einstein, H.H. (1998). Fracture Coalescence In Rock-Type Materials Under Uniaxial And Biaxial Compression. *International Journal of Rock Mechanics and Mining Sciences,* Vol. 35, No. 7, pp. 863-889.

2. *Bobet, A. and Einstein, H.H. (1998). Numerical Modeling of Fracture Coalescence in Rock Materials. *International Journal of Fracture*, Vol. 92, No. 3, pp. 221-252.

1. *Bobet, A., Aristorenas, G. and Einstein, H.H. (1998). Feasibility Analysis for a Radioactive Waste Repository Tunnel. *Tunnelling and Underground Space Technology*, Vol. 13, No. 4, pp. 409-426.

2. Bobet, A. (1999). Technical Note: Analytical Solutions for Toppling Failure. *International Journal of Rock Mechanics and Mining Sciences,* Vol. 36, pp. 971-980.

3. *Vásárhelyi B. and *Bobet, A. (2000). Modeling of Crack Coalescence in Uniaxial Compression. *Rock Mechanics and Rock Engineering*, Vol. 33, No. 2, pp. 119-139.

4. Bobet, A. (2000). The Initiation of Secondary Cracks in Compression. *Engineering Fracture Mechanics*, Vol. 66, No. 2, pp. 187-219.

5. Bobet, A. (2001). Influence of the Loading Apparatus on the Stresses within Biaxial Specimens. *ASTM Geotechnical Testing Journal*, Vol. 24, No. 3, pp. 256-272.

6. Vinard, P., *Bobet, A. and *Einstein, H.H. (2001). Generation and Evolution of Hydraulic Underpressures at Wellenberg, Switzerland. *Journal of Geophysical Research*, Vol. 106, No. B12, pp. 30,593-30,605.

7. Bobet, A. (2001). Analytical Solutions for Shallow Tunnels in Saturated Ground. *ASCE Journal of Engineering Mechanics*, Vol. 127, No. 12, pp. 1258-1266.

8. Bobet, A. (2001). A Hybridized Displacement Discontinuity Method for Mixed Mode I-II-III Loading. *International Journal of Rock Mechanics and Mining Sciences.* Vol. 38, pp. 1121-1134.

9. *Chou, W. and *Bobet, A. (2002). Predictions of Ground Deformations in Shallow Tunnels in Clay. *Tunnelling and Underground Space Technology*, Vol. 17, pp. 3-19.

10. *Sagong, M. and *Bobet, A. (2002). Coalescence of Multiple Flaws in a Rock-model Material in Uniaxial Compression. *International Journal of Rock Mechanics and Mining Sciences*, Vol. 39, No. 2, pp. 229-241.

11. *Bobet, A. (2003). Effect of Pore Water Pressure on Tunnel Support During Static and Seismic Loading. *Tunnelling and Underground Space Technology*, Vol. 18, pp. 377-393.

12. *Mutlu, O., and *Bobet, A. (2005). Slip Initiation on Frictional Fractures. *Engineering Fracture Mechanics Journal*, Vol. 72, pp. 729-747.

13. *Lee, H.S., and *Bobet, A. (2005). Laboratory Evaluation of Pullout Capacity of Reinforced Silty Sands in Drained and Undrained Conditions. *ASTM Geotechnical Testing Journal*, Vol. 28, No. 4, pp. 370-379.

14. *Bobet, A. and *Mutlu, O. (2005). Stress and Displacement Discontinuity Element Method for Undrained Analysis. *Engineering Fracture Mechanics Journal*, Vol. 72, pp. 1411-1437.

15. *Huo, H., *Bobet, A., Fernández, G., and Ramírez, J. (2005). Load Transfer Mechanisms between Underground Structure and Surrounding Ground: Evaluation of the Failure of the Daikai Station. *ASCE Journal of Geotechnical and Geoenvironmental Engineering*, Vol. 131, No. 12, pp. 1522-1533.

16. *Bobet, A. (2006). A Simple Method for the Design of Tunnel Support with Anchored Rockbolts. *Rock Mechanics and Rock Engineering*, Vol 39, No. 4, pp. 315-338.

17. *Parra-Montesinos, G.J., *Bobet, A., and Ramirez, J. (2006). Evaluation of Soil-Structure Interaction and Structural Collapse in Daikai Subway Station During Kobe Earthquake. *Structural Journal, American Concrete Institute*, Vol. 103, No. 1, pp. 113-122.

18. *Nam, S. and *Bobet, A. (2006). Liner Stresses in Deep Tunnels below the Water Table. *Tunnelling and Underground Space Technology*, Vol. 21, No. 6, pp. 626-635.

19. *Mutlu, O. and *Bobet, A. (2006). Slip Propagation along Frictional Discontinuities. *International Journal of Rock Mechanics and Mining Sciences*, Vol. 43, pp. 860-876.

20. *Nam, S. and *Bobet, A. (2006). Radial deformations induced by groundwater flow on deep circular tunnels. *Rock Mechanics and Rock Engineering*. In press. Published Online First™ July 6, 2006.

21. *Huo, H., *Bobet, A., Fernández, G., and Ramírez, J. (2006). Analytical Solution for Deep Rectangular Structures Subjected to Far-Field Shear Stresses. *Tunnelling and Underground Space Technology*. Vol. 21, No. 6, pp. 613-625.

22. *Bobet, A., Nam, S. (2006). Stresses around Pressure Tunnels with Semi-Permeable Liners. *Rock Mechanics and Rock Engineering*. In Press. Published Online First™ December 1, 2006.

23. *Bobet, A., *Lee, H.S., and *Santagata, M.C. (2006). Drained and Undrained Pullout Capacity of a Stiff Inclusion in a Saturated Poroelastic Matrix. *International Journal for Numerical and Analytical Methods in Geomechanics*. In press. Published Online in Advance of Print October 3, 2006.

24. *Bobet, A. (2006). Elastic Solution for Deep Tunnels. Application to Excavation Damage Zone and Rockbolt Support. *Rock Mechanics and Rock Engineering*. Accepted.

Shorter Communications, Letters, Notes or Briefs in Refereed Journals

1. *Chou, W. and Bobet, A. (2003). Discussion: Predictions of ground deformations in shallow tunnels in clay. *Tunnelling and Underground Space Technology,* Vol. 18, pp. 95-97.

Refereed Conference or Symposium Proceedings

1. Rodríguez-Miranda, M.A., *Pascual, F., and Bobet, A. (1986). "Diseño, Construcción y Comportamiento de Rellenos de Tipo Sandwich en la Autopista Bilbao-Behovia" [Design, Construction and Behavior of Sandwich Type Embankments in the Bilbao-Behovia Highway]. *Simposio de terraplenes, pedraplenes y otros rellenos*, Madrid.

2. *Bobet, A., and Einstein, H.H. (1996). "Fracture Coalescence in Rock Material under Uniaxial and Biaxial Loading". *Proceedings of the 2nd North American Rock Mechanics Symposium: NARMS'96,* Montreal, pp. 1603-1609.

3. *Einstein, H.H., and *Bobet, A. (1997). "Mechanized Tunneling in Squeezing Ground - From Basic Thoughts to Continuous Tunneling". *Proceedings of the World Tunnel Congress '97*. Vienna, Austria, pp. 619-632.

4. *Sagong, M. and *Bobet, A. (2000). Coalescence of Multiple Flaws in Uniaxial Compression. *Proceedings of the North American Rock Mechanics Symposium: Pacific Rocks 2000*, pp. 1203-1210.

5. *Loukidis, D., Salgado, R., and Bobet, A. (2001). Seismic design of Pile Foundations in Southern Indiana. *Proceedings: Fourth International Conference on recent Advances in Geotechnical Earthquake Engineering*

and Soil Dynamics Symposium in Honor of Professor W.D. Liam Finn. Paper No. 8.09, pp. 1-6.

6. Bobet, A. (2001). Numerical solution of initiation of tensile and shear cracks. *Proceedings of the 38th U.S. Rock Mechanics Symposium*, pp.731-738.

7. Bobet, A. (2002). Mechanically Anchored Rockbolts in Tunnels in Saturated Ground. *Proceedings of the North American Rock Mechanics Symposium: NARMS-TAC 2002*, pp. 797-804.

8. *Sagong, M. and *Bobet, A. (2003). Micro-fractographic Characterization of Tensile and Shear Cracks. *Proceedings of the Soil and Rock America 2003 Symposium*, pp. 937-944.

9. **Hwang*, J., *Bobet, A. and *Santagata, M. (2003). Laboratory Evaluation of the Compressibility of a Highly Organic Soil. *Great Lakes Geotechnical and Geoenvironmental Conference: Advances in Characterizing and Engineering Problem Soils*. Paper # 6.

10. **Haldavnekar*, V., Bobet, A., Santagata, M., and Drnevich, V. (2003). Soil Treatment with a Thixotropic Fluid: An Autoadaptive Design for Liquefaction Prevention. *Proceedings of the 11th International Conference on Soil Dynamics & Earthquake Engineering and 3rd International Conference on Earthquake Geotechnical Engineering*, Vol. II, pp. 553-560.

11. *Huo, H., *Bobet, A., Fernández, G., and Ramírez, J. (2003). Seismic Evaluation of the failure of the Daikai Station During the Kobe Earthquake. *Proceedings of the 11th International Conference on Soil Dynamics & Earthquake Engineering and 3rd International Conference on Earthquake Geotechnical Engineering*, Vol. II, pp. 758-765.

12. *Mutlu O., *Bobet A. (2004). Slip on Non-Homogeneous Discontinuities. *Proceedings of the 6th North America Rock Mechanics Symposium (NARMS)*, Houston, Texas, June 2004, Paper No. 04-506, 9 pages.

13. **Gur*, T., Ramirez, J.A., Sozen, M.A., Pay, A.C., Johnson, A.M., Bobet, A., Matamoros, A., Irfanoglu, A., And Akin, L. (2004). Performance of School Buildings in Bingöl during the 1 May 2003 Earthquake. *13th World Conference on Earthquake Engineering*, Vancouver, B.C., Canada. August 1-6, 2004. Paper No. 1450, 15 Pages.

14. The Joint Turkey and US Field Reconnaissance Team (2004). The 1 May 2003 Bingöl earthquake: Summary of damage Assessment to private and Public Buildings by a Joint Team of Turkey and the USA. *13th World Conference on Earthquake Engineering*, Vancouver, B.C., Canada. August 1-6, 2004. Paper No. 1017, 15 Pages.

15. *Bobet, A. and Einstein, H.H. (2004). Crack Coalescence in Brittle Material - An Overview of current Knowledge. *EUROCK Conference*, Salzburg, Austria, pp. 475-478.

16. *Fang, C., Haddock, J. and Bobet, A. (2004). 3D Finite Element Study on Contributions of Load Transfer at Concrete Pavement Joint. *Computational Mechanics Conference*, Tsinghua University Press & Springer-Verlag, 10 pp.

17. *Mutlu, O. and *Bobet, A. (2005). A Fracture Mechanics Approach to Slip along Frictional Discontinuities. *U.S. Rock Mechanics Symposium*, paper 05-685, 10 pp.

18. *Bobet, A., Fernandez, G., Ramirez, J., and Huo, H. (2006). A Practical Method for Assessment of Seismic-Induced Deformations of Underground Structures. ASCE Geocongress 06, Atlanta, CD-ROM Proceedings, 6 pages.

19. *Park, C.H., and *Bobet, A. (2006). The Initiation of Slip on Frictional Frcatures. 41st U.S. Rock Mechanics Symposium, Golden, Co. Paper 06-923, 9 pages.

Other Submitted Publications

1. *Simth-Pardo, J. and *Bobet, A. (2006). Behavior of Rigid Footings under Combined Axial Load and Moment. *ASCE Journal of Geotechnical and Geoenvironmental Engineering.* Submitted.

2. *Santagata, M.C., *Bobet, A., Johnston, C., and **Hwang*, J. (2006). One-dimensional Compression Behavior of Highly Organic Soil. ASCE Journal of Geotechnical and Geoenvironmental Engineering. Submitted.

3. *Bobet, A., Fernandez, G., Huo, H., and Ramirez, J. (2006). A Practical Procedure to estimate Seismic-Induced Deformations of Shallow Rectangular Structures. Canadian Geotechnical Journal. Submitted.

Government, University, or Industrial Reports (non-refereed)

1. *Einstein, H.H., Bobet, A. and Aristorenas, G. (1995). "Feasibility Study Opalinuston", for NAGRA (Nationale Gesellschaft für die Lagerung radioaktiver Abfälle), Switzerland. *M.I.T. Internal Report.*

2. *Einstein, H.H., Bobet, A. and Vinard, P. (1997). "Study of the underpressures at Wellenberg", for NAGRA (Nationale Gesellschaft für die Lagerung radioaktiver Abfälle), Switzerland. *M.I.T. Internal Report*.

3. *Bobet A. (1997). *Fracture Coalescence in Rock Materials: Experimental Observations and Numerical Predictions.* Sc.D. Thesis, Massachusetts Institute of Technology, Cambridge, Massachusetts.

4. Bobet, A., Salgado, R. and *Loukidis, D. (2000). Seismic Design of Deep Foundations. Report No. FHWA/IN/JTRP-2000/22 for the Joint Transportation Research Program.

5. *Asyn, J. and Bobet, A. (2001). Guidelines for Use and Types of Retaining Devices. Report No. FHWA/IN/JTRP-2001/28 for the Joint Transportation Research Program.

6. *Bobet, A. and Huo, H. (2002). Bearing Capacity of 42 inch (1050 mm) Polyethylene Pipe, for Advanced Drainage Systems, Inc., Indianapolis, IN.

7. *Lee, H.S. and Bobet, A. (2002). Design of MSE Walls for Fully Saturated Conditions. Report No. FHWA/IN/JTRP-2002/13 for the Joint Transportation Research Program.

8. *Santagata M.C. and *Bobet, A.(2002). The use of cement kiln dust (CKD) for subgrade stabilization/modification. Report to Indiana Department of Transportation and Lehigh Portland Cement Company.

9. *Bobet, A., Drnevich, V.P., and Santagata, M.C. (2003). Soil Treatment with Thixotropic Fluids: An Autoadaptive Design for Liquefaction Prevention. Final Report, National Science Foundation.

10. *Ramirez, J. and *Bobet, A. (2003). Performance Based Seismic Evaluation of Underground Structures. Final Report, National Science Foundation.

11. *_Hwang_, J., *Humphrey, A., *Bobet, A. and *Santagata, M. (2004). Stabilization and Improvement of Organic Soils. Report for the Joint Transportation Research Program.

12. *_Huang_, P.-T., *Santagata, M.C., and *Bobet, A. (2006). Classification or Organic Soils. Report for the Joint Transportation Research Program.

Invited Publications and Presentations

1. *Bobet, A. (1997). Fracture Coalescence in Rock Materials: Experimental Observations and Numerical Predictions". ETH-Zürich. January 28.

2. *Bobet, A. (1997). Fracture Coalescence in Rock Materials: Experimental Observations and Numerical Predictions". Purdue University. April 10.

3. *Bobet, A. (1998). USUCGER (United States Universities Council on Geotechnical Engineering Research)Workshop. November, 15-16, 1998. Newport, RI.

4. *Bobet, A. (1999). Autoadaptive Media in Civil Engineering Systems. Research Workshop. Geotechnical Group Chair. Purdue University. January 8-9.

5. *Bobet, A. (2000). The Initiation of Secondary Cracks in Compression. Massachusetts Institute of Technology. April 3, 2000.

6. *Bobet, A. (2001). Geotechnical Aspects of the 1999 Turkey Earthquake. CEPDS16. Sixteenth Annual Civil Engineering Professional Development Seminar. ASCE and School of Civil Engineering at Purdue University.

7. *Bobet, A., Ramirez, J., and Huo, H. (2001). US-Japan Cooperative Research: Investigation of the Failure of the Daikai Station. University of Tokyo, Japan, March 14.

8. *Bobet, A., and Ramirez, J. (2001). Performance based seismic evaluation of underground structures. *Proceedings of the U.S.-Japan Cooperative Research on Urban Earthquake Disaster Mitigation*, pp. 79-88.

9. *Bobet, A., Ramirez, J., and Fernández, G. (2002). Evaluation of Observed Behavior of Kobe Metro Station Under Seismic Ground Motions and Assessment of Remedial Measures. *North American Tunneling Conference*, Seattle, May 21.

10. *Bobet, A., Ramirez, J., Huo, H., and Fernández, G. (2002). Performance based seismic evaluation of underground structures. *US-Japan Kyoto Meeting on Urban EQ Disaster Mitigation.* Disaster Prevention Research Institute, Kyoto University, Kyoto, Japan.

11. *Bobet, A. (2002). Geotechnical and Construction Considerations on Tunnel Stability. Construction Area, School of Civil Engineering, Purdue University.

12. *Bobet, A. (2003). Overview of Research Projects in the Geotechnical Group. Department of Earth and Atmospheric Sciences, Purdue University.

13. *Bobet, A. (2003). Earthquake in Bingöl. Department of Earth and Atmospheric Sciences, Purdue University.

14. *Bobet, A. (2003). Geotechnical Aspects of the 1999 and 2003 Turkey Earthquakes. Civil Engineering Student Advisory Committee, School of Civil Engineering, Purdue University.

15. *Bobet, A. (2003). The Initiation of Secondary Cracks in Compression. School of Civil Engineering, University of Toronto, Toronto, CA.

16. *Bobet, A. (2003). An Introduction to the Concept of Effective Stress, with Application to Soil and Rock. School of Civil Engineering, University of Toronto, Toronto, CA.

17. *Bobet, A. (2004). Load Transfer Mechanisms between Underground Structure and Surrounding Ground: Evaluation of the Failure of the Daikai Station. Departamento de Ingeniería del Terreno. Technical University of Catalonia (UPC), Barcelona, Spain.

18. *Bobet, A. (2004). The Initiation of Shear Cracks in Compression**.** Departamento de Ingeniería del Terreno. Technical University of Catalonia (UPC), Barcelona, Spain.

19. *Bobet, A. (2004). Load Transfer Mechanisms between Underground Structure and Surrounding Ground: Evaluation of the Failure of the Daikai Station. University of Michigan.

20. *Bobet, A. (2005). Micromechanics of Fracture and Crack Coalescence in Brittle Materials. NSF/EPSRC Workshop on Micro-Geomechanics across Multiple Scales. March 20-23, Cambridge, England.

21. *Bobet, A. (2005). Local Site Conditions and Structural Damage during Earthquakes. EERI Purdue Chapter, Purdue University.

22. *Bobet, A. (2006). Propagation and Coalescence of Frictional Discontinuities. University of Illinois at Urbana-Champaign.

Planned or Anticipated Publications

1. **Hwang*, J., Bobet, A., and Santagata, M.C. (2006). One-Dimensional Consolidation Behavior of Organic Soils. Part II: Treatment with Portland Cement. *Geotechnique*. In preparation.